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ORIGINAL COMMUNICATIONS.

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TYMPANIC MASSAGE: A NEW METHOD BY MEANS OF METALLIC MERCURY.*

BY JOSEPH C. BECK, M.D., CHICAGO.

I have not prepared a formal paper on this subject, but am simply going to tell you, briefly, what I have done and demonstrate to you the method, as well as relate the experience I have had with this plan of treatment. While it is new, so far as I am able to gather from the literature of otology, it is not absolutely original in other departments of medicine, particularly in the department of Internal Medicine.

It was in the year 1901, that I read an article by Dr. A. Foges (*Gersuny's Clinic*), on the use of metallic mercury in the treatment of adhesive processes of the rectum and posterior surface of the uterus. While reading this article it flashed upon my mind that we had similar adhesive processes in the ear. At first I looked upon it very lightly, but studied the matter somewhat, and came to the conclusion that I could use mercury in the ear as a means of massage as Lucae recommends the use of a probe on the ossicles on the short process, and use the same amount of pressure on this process without producing any pain, or at least, without producing any more pain than would be caused by the use of paraffin. I therefore went to work and constructed an apparatus for experimental purposes. This apparatus consists of a test tube drawn out to a point like this (Fig. 1.) It was simply filled with mercury for experimentation. After conducting a series of experiments I came to the conclusion that the use of two ounces of mercury was equal to the usual pres-

* Read before the Chicago Laryngological and Otological Society, November 7, 1905.

sure that is exerted by the Lucae probe. The apparatus I experimented with is the same as the one I use now, as I have not been able to improve upon it in any way.

You are all familiar with the various methods of massage, and I will not go into that phase of the subject. I simply want to say that my experiments date from a little over a year and a half ago, and at the Western Section of the American Ophthalmological, Otological and Laryngological Society, the meeting having been held in St. Louis, I presented a brief report of this method and asked several of the gentlemen who were present to use this method and give me their results.¹ I have received reports of the results from most of those gentlemen, and they are about the same as I have been able to obtain myself.

The cases I have taken for the use of these experiments were not selected cases from a pathological point of view. I did not question whether the cases were instances of oto-sclerosis or a catarrhal pro-



Fig. 1.

cess; I simply took cases of chronic ear trouble which we know and classify as chronic non-suppurative troubles, with all the cardinal symptoms being present, such as deafness and tinnitus aurium. I kept records and complete histories of the cases, and treated them for the relief of the two conditions with and without the usual treatments that are otherwise used in connection with these cases; I mean those measures such as inflation by catheter, local applications to the naso-pharynx, etc. I took particularly the cases that I treated by these methods and that had resisted such treatment; for I had had comparatively no results, being annoyed, as we all are, with those cases in which there is tinnitus aurium. I am glad to inform you that by means of metallic mercury we can relieve the tinnitus aurium, and my statements are backed up by other gentlemen who have been using this method. I combine with the use of massage, two other factors which are very important, and especially in the treatment of ear troubles of this kind, namely, heat and the use of

¹ In the discussion at the Western Section, Drs. Barnhill, Ballenger and Goldstein expressed themselves as very favorably impressed and glad to try it in their practices.

metallic mercury. The mercury comes in contact with the tympanic membrane in a nascent form, which is liberated by heating. I show you the tube which I have been using for some time, where you will find a gray deposit of the mercury on the inner side of the tube. In the cases I have treated, this grayish deposit has been found on the tympanic membrane and in the canal. You are all familiar with the action of mercury. Inasmuch as it acts as a resorbing agent on adhesive processes in other parts of the body, it should do so in these cases, so far as we can reach it. I cannot prove any of my results histologically or pathologically, as I have not had occasion to do that. The use of heat is well-known, and this is the best way I know to introduce heat into the canal in any of these cases. In cases of acute trouble of the ear, in cases of ceruminous deposits, you can introduce heat and retain it for some time.

The technique of this treatment is this: You heat the mercury over an alcohol flame for a time, so as to reach a temperature of 180° F. This takes about half a minute, as I have proven by the clinical thermometer. It is then allowed to cool off sufficiently, after which you introduce this tube into the external auditory canal. By experience you will learn to know exactly how long to heat the mercury. The heat is retained sufficiently long to give a treatment in one ear. The patient's head is inclined towards the side (illustrating) that you are going to treat, and you tightly fit the tube into the patient's ear, so that it closes like an otoscope, and then with this motion (illustrating) you strike the drum. If you introduce the tube in this manner and simply move the head from side to side, the canal will not be entirely filled with mercury. You obstruct the canal; therefore, you should grasp the auricle in the manner I show you and draw it tight over the tube, so that it spreads the canal, and then with this motion you strike the tympanic membrane. If you try the experiment on yourself you can see with what force you strike the tympanic membrane. I have carried on these experiments at various times, in order to see what effect it would have on the condition. I usually make about fifteen motions to and fro of the head at each sitting; then, reheating the tube to the temperature mentioned, it is introduced into the opposite ear, and motions are made in the same manner.

A thorough examination of the tympanic membrane must be made before treatment is instituted, so far as perforations, ceruminous plugs, and long hairs are concerned. After the treatment, patients are somewhat sensitive as to the retention of some of the mercury,

but by shaking the head slightly a little of the mercury will drop out. If some of it should remain in the ear, there will be no harm done.

I have treated 261 cases by this method, and it is unnecessary for me to report them because they were ordinary cases, with which you are all familiar. I will simply say, however, that of this number I have not had one bad or unpleasant effect; that is, where a patient could not stand the treatment, or had severe pain, dizziness, or any bad after-effect following it. Universally the patients have declared that the noises in their ears have either disappeared or that they are very much improved. Of the cases that resisted this treatment, I will simply say that I was able to find some general condition more than the local ear trouble which was responsible for the tinnitus aurium, such as gastro-intestinal or cardio-vascular disturbances. Those cases resisted this treatment; but where the condition was principally confined to the ear, the results were fairly successful.

I made experiments on dry ears with perforation, carried on the treatment, and found that retention of the mercury in the canal was followed by disagreeable symptoms, such as dizziness, until the mercury was dislodged. I recall one case in which fluid, introduced into the auditory canal, would easily flow into the pharynx, and my assistant succeeded in one case in passing a particle of mercury into the pharynx.

One of the cases I wish to report was that of a physician, a specialist, who was suffering from tinnitus aurium and had been for a long time. He gave me permission to report his case, and other cases he has been treating. In one case the tinnitus aurium entirely disappeared after this method of treatment; the rest of them are markedly improved. Four other cases have been treated so recently by this method that I cannot make a report as to the results.

In my remarks, I may have skipped some points regarding the work I have done on ears with this method of treatment, but I shall be only too glad to answer any questions that may be asked.

(For discussion of this paper see page 971.)

92 State St.

MALIGNANT DISEASE IN THE NOSE, WITH REPORT OF CASES.*

BY CHARLES L. MINOR, M.D., SPRINGFIELD, OHIO.

In the study of the literature in reference to cases of malignancy in the nose I was impressed not with the rareness of cases, especially sarcoma, but with the very imperfect reports of such cases. There was lacking such points as, hereditary history, previous history of patient, status of patient, age, sex, side of nose affected, appearance of the adjacent nasal structures, the progress of the case after operation or treatment, temperature, any nasal discharge; and above all a complete microscopical report not merely mentioning the fact that the case is one of malignancy but giving the pathologist's reasons for so thinking, and a post-mortem report in full where one has been made. In the review of all the cases reported to which I had access to the literature, comprising about seventy-five cases, I did not find a complete necropsy report.

In view of these facts I report by cases in detail, possibly inserting some points that have no bearing on the case yet which may be of value to others investigating similar cases.

Case I.—Mrs. G. D. age 28, consulted me July 27th, 1903, on account of constant headaches, difficulty in breathing and some discharge from the nose. After examination I diagnosed the case as one of polypi in the left nostril with a deviation of the septum to that side and some adhesions between the septum and inferior turbinated bone. I removed the polypi and the adhesions on September 10th (same year). She was very much relieved until December when she noticed that the opposite side of her nose was becoming stenosed just as the right had been. Upon examination I found that side almost completely blocked with growths resembling polypi, but it was impossible to get any definite idea from which area they sprung. I removed as much of the growth with snare, curette and scissors as was possible, under cocaine anaesthesia, and put her on increasing doses of potassium iodide (until she was taking seventy-five grains) and also a quarter grain of the protiodide of mercury three times a day. She was relieved for a week or two but the symptoms gradually returned until she was worse than she had ever been.

* Read before the Tenth Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology, held at Buffalo, September 14, 15 and 16, 1905.

February 13th, 1904, I curetted the whole interior of the right nose very thoroughly under chloroform anaesthesia. The bleeding was profuse. The relief was almost instantaneous. The patient recovered promptly and was sent home in a week. About two weeks later the left side of the nose began to fill up again, and on March 12th, I curetted the same under general anaesthesia. After this she had no further return of the growth up to the time that she went to Colorado Springs. She went to the Springs on my advice based upon the pathological report, after satisfying myself that it was not syphilitic as she did not respond to specific treatment. I had the curettings examined by Dr. F. P. Anzinger, the pathologist to the City Hospital, who believed them to be of a carcinomatous nature.

The growth in the nose was dull grey in color, glistening in spots, soft, a probe being readily passed into it, and bleeding freely when so disturbed. It apparently sprung from the middle turbinal in the beginning and gradually spread to the septum and adjacent parts until at the height of the trouble it completely filled the upper half of the nose.

The following history was obtained:

Family History: Mother's father died at the age of seventy-two from gangrene of "the end of the spine." Mother's mother died at the age of sixty-two of Typhoid fever (?). Is said to have had cancer of the womb. Mother's sister died of cancer of the womb at the age of fifty. Father living, in good health. Age sixty-nine. Had cancer removed from his neck at Dayton, Ohio, hospital. (Microscopic diagnosis.) Father's sister died of cancer of the breast at the age of sixty-six. Father's brother had cancer of the lip removed. (Microscopic diagnosis). Still living and in good health. Mother still living, age sixty-four; in good health, but has a lump in her breast. Sister had scrofula in the neck, operated on when aged eighteen. Is now in good health, age thirty-two. Has one other sister and one brother in good health.

Personal History: Patient has had measles, mumps, chicken-pox and whooping-cough when small. Malaria at the age of twelve. Has never been robust, yet she has never been very ill. Has always had some female trouble. Never has had any lung trouble. Patient is small of stature, poorly developed, fairly well nourished, florid type. Her family physician reports that she has no lung trouble of any sort, that while not strong, she is not ill. Her female trouble is confined to the uterus and vagina.

Pathological Reports: Dr. F. P. Anzinger, reports as follows: "Case D.—Feb. 16th, 1904. Curettings from the nose. Tissue is soft and polyp-like in character. It consists of a stroma of loose connective tissue with a rich supply of small blood vessels. In the stroma are seen localized areas of small cell infiltration, epithelioid cells, and a few giant cells. Localized areas of necrosis and beginning caseation are noted. Scattered throughout the tissue are many atypical gland spaces. The basement membrane is indistinct and broken. The lining cells are atypical as to size and arrangement of chromatin. The surface of the tissue is covered by modified thickened pavement epithelium, which in some places dips deeply into the stroma and in others displays islands of epithelial pearls. The surface in a few places is made up of necrotic tissue. Sections stained for tubercle bacilli are negative. The granulomatous parts of the tissue resemble that commonly found in syphilitic or tuberculous processes. The epithelial proliferation is distinctly cancerous in appearance. Diagnosis—Myxomatous granuloma with superficial carcinomatous proliferation. (Probably not very malignant)."

Dr. S. E. Allen reports as follows: "Looked at the slide of curettings of Mrs. D. and also had Dr. Wolfstein look at it. We think the growth probably Adenoma which has undergone some carcinomatous change, hence an Adeno-carcinoma."

Dr. A. S. Warthin gives the following report: "The section represents a polypoid granuloma with carcinomatous proliferation of the surface epithelium and might be either tuberculous or syphilitic, but there is no positive evidence of either process. There are epithelial areas with characteristic giant cells and also some caseation and fibrous exudate so that the picture resembles both tuberculosis and syphilis. The ultimate diagnosis would have to depend upon the bacteriological examination, that is the section should be stained for the tubercle bacilli. The granuloma is the primary condition and the carcinomatous proliferation is the secondary, the whole picture closely suggesting a lupus-carcinoma so-called."

Judging from the doses of the iodides and mercury that I gave the patient, the granuloma was not syphilitic, I sent her to Colorado principally to have her away from her friends and social functions, and to have her live out of doors and take an abundance of exercise. After she had been there about a year I asked Dr. Levy, of Denver, to examine her nose which he kindly consented to do. He reports as follows: "Mrs. G. D. presented herself a few days ago and after a careful examination of her nose under cocaine and adrenalin, I

found no evidence of a return of the growth. Upon the right side I found moderate adhesions between the septum and the middle turbinal in its middle and between the septum and inferior turbinal anteriorly. Also a small adhesion in the roof of the nose far interiorly. Upon the left side the septum is still deflected of course, and an erosion of moderate size exists on the anterior portion. Her weight is 108 lbs., temperature normal, pulse 100, (probably due to the excitement of the examination). Her general appearance is good, although she does not impress one as being robust."

August 3d, the last time that I saw the patient, she was in the same condition as reported by Dr. Levy with the exception that she had no evidence of the erosion on the septum which apparently disappeared under the use of the ointment prescribed by Dr. Levy some time ago.

Case II.—Mrs. W. W., age 22; was referred to me by the family physician who diagnosed nasal polypi which he thought should be removed. She consulted him on account of catarrh.

Family History: Grandparents on both sides have been dead a number of years, but she does not know the cause of death of any except her father's mother who died of cancer of the breast. She does not know at what age. Father died aged sixty-eight, from Bright's disease. Mother living, in fairly good health. She has had one attack of Apoplexy. Two brothers living, in good health; aged thirty-six and thirty-eight. Two sisters living and in fair health. Both have had abdominal sections for female trouble but she does not know the exact nature. Patient has never been ill save with the ordinary diseases of childhood, measles, chicken-pox and whooping cough.

She consulted me on September 19th, 1903, giving the following history of nasal trouble. Never had any nasal symptoms until March of this year when she had an attack of la grippe, which left her with a nasal discharge and occasional stenosis of both sides.

Status praesens: Both nares completely filled with polypi. Some discharge coming from above in both nares. Post rhinoscopic examination shows polypi hanging in post nasal space.

Diagnosis: Polypi narium with empyema of the ethmoid and probably of the sphenoid cells.

September 21st, I removed polypi from both nares with cold wire snare very thoroughly under cocaine anaesthesia and adrenalin. Very little hemorrhage. Patient had complete relief until the fol-

lowing March when her nose began to be occluded again. The discharge in the nose did not diminish and patient was compelled to use the nasal douche each day.

July 26th, I again removed polypi from both nares with the cold wire snare. As before the patient had almost instant relief. She was comfortable for about four months when it was again necessary to remove the growths. After the removal with snare, curette and scissors under cocaine anaesthesia, the specimens were given to Dr. Anzinger for microscopical report. Patient was relieved this time for only about four weeks, when all the old symptoms returned with the added one of pressure headache. On examination, I found both sides of the nose filled with dull grayish colored growths, no different in appearance from the former growths, but owing to the report of the pathologist the patient was sent to the hospital, was given a general anaesthetic and the whole of the middle turbinates and the areas around were removed with scissors and curette. Hemorrhage at the time of the operation was very profuse, but not so at any other time. Since this operation on April 12th, the patient has been very comfortable, and has had no return of the growth, but the discharge from the sinuses is as profuse as ever although at the time of the operation all the cells were as thoroughly curetted as was possible with the hemorrhage present. I do not report this case as permanently relieved, but merely add it to the report of the other three cases, and expect to report later if there should be a return of the cancerous growth.

Pathological Report: "The curettings from the nose consists of two small fragments of tissue resembling polypoid growth but more "fleshy" in consistency and color. Microscopical—the stroma is distinctly myxomatous in character with small round cells scattered throughout. The round cells are larger and contain more protoplasm than the cells usually associated with inflammatory processes. The blood vessels are small and few in number, scattered in groups. Throughout the stroma are numerous gland spaces varying in character. A few are large and cystic, and lined with low columnar pavement epithelium. The majority are medium sized, and lined with ciliated columnar epithelium. The gland spaces are irregular in shape, basement membrane destroyed and the cells atypical in character. The last gives the appearances often termed adenoma-carcinomatousum. They represent the transition from simple adenomatous, to the true carcinomatous proliferation. The surface of the growth is largely covered

with ciliated columnar epithelium which in part is eroded and replaced by necrotic tissue. In places the surface is covered with simple pavement epithelium, the cells of which are in part atypical and disorganized. The fragment of tissue shows beginning necrosis in which remnants of atypical epithelial cells may be distinguished. The last is unquestionably malignant.

Diagnosis: Polypoid granulations with adeno-carcinoma. (Probably not very malignant.)

Case III: Mrs. G., age fifty, was referred to me in consultation, May 7th, 1905. She complains of violent frontal headaches and inability to breathe through her nose.

Family History: Father's mother and father died when very old. Does not know the cause of death or the exact age. Mother's father died, when young, from an accident. Mother's mother living, age, ninety-eight. Father living, age seventy. Has always been in good health until the last few years, when his health failed on account of hard work. (Blacksmith.) Mother living, age sixty-eight; in excellent health. Three brothers living, all in good health. Six sisters living, all in good health. One sister died in infancy.

Personal History: The only illness that she has had is malaria. (One attack.) Has had tonsillitis and quinsy nine different times.

The Present Trouble began about the middle of September, 1904, when, after blowing her nose violently, she had a severe hemorrhage from the back part of the throat which lasted about an hour. One month later her "head broke" giving rise to a very foul discharge from the upper throat which has kept up ever since, but with treatment the offensive smell has been lessened.

January, 1905, she began to have periodic pains in the head. On the morning of February 16th, she awoke with a violent pain in her head which has continued uninterruptedly ever since, being so severe, that she has not only been unable to do any housework, but even to lie down. March 15th the left eye began to turn in and the sight to fail. She was able however, to focus the eyes with effort until the middle of April, when she had continuous double vision.

Status praesens: Patient has the appearance of acute suffering. Head drawn to left side. Height 5 ft., weight 158. Has lost 20 lbs. in the last six months. Temperature 98; pulse 140. Has complete paralysis of the sixth nerve on the left side. Mild optic neuritis of both eyes. Right vision equals 20/40.

There is no swelling or evidence of nasal trouble externally. Left nose is filled with an enormous enlargement of the middle turbinal with usual color of intranasal hypertrophies. Inferior turbinal slightly enlarged. Can not reduce the swelling by the use of Adrenalin Chlorid 1-1000. Very sensitive to touch of probe, but does not bleed. Swelling is hard, giving the same feel when probed as that of the cartilaginous septum. She has a free discharge from the nose but it is not offensive. The right nose has some enlargement of both the inferior and middle turbinates. Transillumination of the Antrum of Highmore and the frontal sinus negative on both sides.

Diagnosis: Hypertrophy of the middle turbinate, left side, with empyema of the ethmoid and probably of the sphenoid cells.

Patient was advised and consented to have the nose operated on. When I attempted to remove the middle turbinate with scissors under cocaine anaesthesia the pain was so severe that the operation had to be discontinued. Hemorrhage was no greater than for any ordinary nasal operation. Patient was given tonics and the nose was thoroughly cleansed several times a day until May 16th, when she was placed under general anaesthesia, and the nose thoroughly cleaned out with scissors and curette. The hemorrhage at this time was terrific, but was soon under control after the use of ice to the bridge of the nose and the nape of the neck.

Patient made an uneventful recovery from the operation except that a few days afterward she began to vomit about twice a day, independent of her meals, and has continued to do so until the present time.

June 11th, the patient wished to be removed to her home in the country and was allowed to go. Her condition when she left the hospital was as follows: Suffering constant, and severe pain across the bridge of the nose, and in frontal region, for which morphia grain 1/4 is given p. r. n. Swelling in the nose perceptibly increasing, but no external evidence of the same. Eye symptoms are unchanged, except the vision is less in both eyes. Right vision is 20/100 and the left is 20/200. Has marked optic neuritis in both eyes. Patient's son reports weekly concerning his mother and says that she is failing rapidly.

I neglected to state that I had her physician examine her carefully for any evidence of tumor or symptoms of cancer in other parts of the body, but he reported negatively.

The Pathological Report of Dr. Anzinger is as follows: Mrs. G., May 19, 1905. Curettings from the inferior turbinated region. Microscopically, the general anatomical landmarks are wanting. One small fragment consists mainly of a delicate framework of connective tissue surrounding many closely arranged gland spaces. The gland spaces are irregular in shape and size, the basement membrane in general being intact, but in some instances distinctly broken, with atypical lining cells. The surface of the growth is largely covered with normal ciliated columnar epithelium, but in a few areas this is distinctly atypical, suggesting beginning malignancy. The remaining fragments of tissue consist of a stroma myxomatous in character, and with a rich supply of large spindle cells. Throughout this stroma are irregular islands and columns of cells closely arranged, simulating epithelioma. On closer analysis these cells have large irregular nuclei with scant protoplasm. A few cells are multi-nuclear. The blood vessels and spaces are embryonic and largely made up of these same cells. In a few areas the cells are arranged in whorls and strands, giving the appearances of spindle cell sarcoma. The tissue containing these cell groups is free from gland spaces and pavement epithelium, it probably represents curettings from the deeper strata of the turbinated body.

Diagnosis: Sarcoma (spindle cell?) of the turbinated bone with adenoma carcinomatosum of the mucus glands and superficial carcinomatous proliferation of the surface epithelium.

Case IV. T. C. D., painter, age sixty-four referred to me in consultation; the diagnosis of sarcoma of the septum having been made.

Family History: Grandparents on both sides died after eighty years, but does not know the cause of death or duration of illness. Father died at age of seventy-three of "Paralysis of the brain." Mother died at age of seventy-three of the same cause. Two brothers living in good health, ages seventy-two and fifty-seven. Two sisters; one living; in good health; age fifty-six. One died at the age of fifty-five from Typhoid. No near relatives, uncles, aunts and cousins included, have ever had tuberculosis, cancer or apoplexy.

Personal History: Patient has had all the ordinary diseases of childhood. Had malaria four or five times between the ages of twenty and forty. Has been a painter for the last thirty years, but for the last fourteen has worked in a shop, polishing filler from road rollers, which is a very dusty occupation, the workman being enveloped in a cloud of dust all day long. For the last five years patient has had catarrh as evidenced by frequent "cold in the head."

Present Trouble: Thanksgiving Day, 1904, his head began to ache and has continued to ache ever since. The nose was stopped up on the right side. In February, 1905, he noticed a lump on the right side of the nose externally, on a line with the lower orbital margin, not painful. From February 15th, to March 13th, right cheek was swollen and right eye was almost swollen shut, and with a profuse discharge from the eyelids. He consulted a physician who diagnosed polypi narium and abscess of antrum of Highmore. On attempting to remove the polypi with cold wire snare the doctor was compelled to discontinue his operation on account of the profuse hemorrhage. The small piece taken out was given to the pathologist for microscopical examination, and poultices were applied to the cheek. After four days the antrum was opened through the canine fossa with a scalpel. The opening has discharged some pus ever since. The nose has remained about the same as far as the patient is able to judge.

Status praesens: Right nose is filled with a dull greyish colored cauliflower-like mass, which bleeds freely when touched. Has perforation of septum in its anterior at the junction of the osseus and cartilaginous portion with edges heaped up, soft, and bleeding freely when disturbed. The left nose is free except around the edges of the perforation. Has an opening into the antrum in the canine fossa from which pus oozes and through which a probe passes freely in all directions.

There is no external swelling of the nose and no tenderness on pressure. Transillumination shows the right antrum dark and the frontal sinus dark on both sides. The right eye is congested and oedematous. Complains of slight frontal headache, inability to breathe through the right side of his nose and frequent bleeding of nose from slightest provocation, but never very alarming.

A small piece of the growth was removed for microscopical examination, and the patient was sent to the hospital. He was given potassium iodide and protiodide of mercury for several days without any result. The growth in the nose gradually increased in size until May 29th, when patient was given a general anaesthetic with the idea of doing a radical operation, but after curetting away the whole interior of the nose and finding the accessory cavities involved, the operation was discontinued. Hemorrhage was profuse but readily controlled by use of post-nasal packing applied before the operation was started and by anterior packing applied at the completion of it.

Patient recovered promptly from the operation, and was sent home ten days afterwards (June 7th), in a very comfortable condition. He returned every second day for inspection. He was seen last by me on June 12th when he said that he felt good except for a slight headache. Remarked that his appetite was better than it had been for some time, and that his bowels were regular. On June 13th he went to the hospital in the morning and after dinner came up town from his home a distance of about three squares, to see a parade. He returned home about five p. m. tired, but after a hearty supper felt rested. After supper on the way to toilet he had a violent hemorrhage from the bowels. At 11 p. m. he had another, but soon retired and was asleep. The patient was found dead the next morning at 4 a. m., sitting on the vessel. There was about a quart of blood in the vessel. The patient had evidently died from exhaustion due to intestinal hemorrhage.

The Post-Mortem Findings as given me by Dr. F. P. Anzinger are here reported in full:

"Autopsy on T. C. D., June 14th, 1905, at 3:30 p. m. Body of slender build, moderately emaciated, rigor mortis throughout. Body has been embalmed. The subject has an old ankylosed deformity of spine which makes the left shoulder girdle more prominent. The right malar region is slightly more prominent than the left, and a slight transverse incision is noted below the inner canthus of the right eye. The abdomen is moderately distended. The subject has a heavy dark grizzled moustache. The hair on the scalp is scant, and with a bald forehead. No visible scars or deformities on the body. The scalp is thin and easily removed. The skull cap is likewise thin and shows no anomalies. The brain is hardened by the undertaker's fluid, but otherwise negative. The vessels of the cerebrum, especially the circle of Willis, are very thin and almost transparent. The base of the skull shows no pathological changes. With a blunt curette the cribriform plate is broken through exposing the nasal sinuses which are filled with an offensive grumous material which in all probability is new growth. The probe is easily passed into the various sinuses, into the right antrum of Highmore, also into the right orbital cavity. From the antrum the probe is passed forward through the outer wall of the superior maxilla pushing the skin before it. The posterior part of the septum is entirely necrosed.

An incision is made from the sternal notch to the pubes. The skin is thin and the panniculus scant, consisting of golden yellow

fat. On opening the abdomen the distended colon presents itself, and is deeply injected. Explorations of the loops of the small intestine shows the same injection of the walls, especially scattered along the ileum. The appendix is normal. The caecum and colon are filled with a few jelly blood clots and blood stained slimy mucus. The intestines are opened throughout, and carefully explored. In the lower part of the ileum is felt an indurated mass involving the intestinal wall, the lumen corresponding to this region contains a firm jelly clot. On closer examination the induration is found to be circular about the size of a half dollar. The mucosa is smooth and shiny, the muscularis is displaced by a vascular and homogenous tissue, which is either new growth or an infectious granuloma. The mucosa at this point is displaced by a rough granular surface, the same containing a few pin-head size blood vessel openings. The caecum and nearly the whole length of the colon has the mucosa markedly injected and in places slightly eroded. The stomach is moderately injected. The pyloric opening is quite narrow (artifact), but otherwise negative. The undertakers fluid makes the examination of the tissues difficult.

The liver is very much enlarged. The lower third of the right lobe is furrowed by the pressure of the lower ribs. The liver surface is roughened but not nodular. No new growths are seen on section. The gross appearance is altered by undertaker's fluid.

The gall bladder is much elongated and sausage shaped, being 8 cms. in length and 3 cms. in diameter. It is filled compactly with gall stones. On opening the gall bladder the walls appear slightly thickened, and the mucosa in many places eroded. The gall stones, numbering 170, are practically uniform in size, polyhedral in shape, dark greenish-brown in color, and of the consistency of chalk. The cystic and common ducts are patent and show no pathological changes.

The spleen is about twice the normal size, flattened and rounded in contour and contains two shallow notches. Its structure is altered by undertaker's fluid.

The pancreas is slightly enlarged, especially the head end, and many of the lobules are atrophied and replaced by golden yellow fat.

The kidneys are both normal in size, with uneven surfaces. On section, the cortex and medulla appear atrophied and the pyramids are surrounded by fat tissue. The fibrous capsule is moderately adherent. The fatty capsule is very thick and made up of golden

yellow fat. The adrenals are represented by ribbon-like, pale, chocolate-brown bodies embedded in golden yellow fat. On section, the right adrenal contains an area of pale yellow and white mottling which may be new growth.

The mesentery contains a moderate amount of golden yellow fat, embedded in which are found enlarged lymph nodes. The nodes on section appear honeycombed, probably due to infiltration of new growth. The retroperitoneal nodes show similar changes.

The abdominal aorta appears normal but was not opened.

The urinary bladder appears normal externally.

Chest: The costal cartilages are ossified throughout. The mediastinal fat is abundant. Both lungs are air containing, and show moderate anthracosis. The right lung is firmly adherent throughout, due to an old adhesive pleuritis. The left lung is slightly adherent posteriorly, but is otherwise negative.

The heart is moderately enlarged and contains a heavy deposit of golden yellow fat. It was not opened by request.

Microscopical Findings: Curettings from the right nares consist of new growth. The tissue is made up of polymorphous cells, irregular in size, the nuclei atypical and hyperchromatic, and the connective tissue scant. Giant cells are very few in number. The blood spaces are very abundant and made up of tumor cells. The specimen represents a polymorphous cell sarcoma.

The indurated wall in the ileum consists almost entirely of new growth, closely resembling the primary growth in the nose. A few remnants of the muscularis are made out and the mucosa is entirely displaced by tumor cells which are necrotic. The blood vessels are very numerous being entirely made up of tumor cells, many of which lead up and open into the lumen of the intestine. (This explains the cause of the hemorrhage.) The remainder of the intestinal tract shows catarrhal enteritis with small cell infiltration in the submucosa and atrophy of the mucosal glands.

The cardia of the stomach shows marked fibrillar degeneration of the muscularis and a few areas not unlike sarcoma, are seen in the intermuscular stroma.

The mucosa shows moderate chronic hypertrophic gastritis.

The sphincter of the pylorus: The muscularis shows changes similar to those found in the cardia. In the cellular tissue between the two layers of muscle is found a small vessel the walls of which are made up of sarcoma cells resembling the primary growth. The mucosa appears normal.

The spleen: The capsula is thickened. Large bands of trabeculi are noted but in general the stroma is not increased. The follicles are atrophied. A few diffuse small areas of secondary sarcoma are seen. The spleen shows chronic congestion.

The pancreas: The parenchyma shows beginning necrosis. (Postmortem change?) Areas of Langerhans are closely arranged, a few undersized and a few hypertrophic. The parenchyma is largely atrophic and displaced by adipose tissue.

The liver: The lobular arrangement is very indistinct. The liver cells in some areas show granular and fatty degeneration. Fatty infiltration is only slight. The liver cells are largely atrophic but a few areas show compensating hypertrophy. Glisson's capsule is moderately increased. Scattered throughout the liver stroma are found islands of sarcoma cells which stain deeply and contrast strongly with the surrounding tissue.

The gall bladder: The wall is moderately thickened, the muscularis is largely displaced by loose edematous connective tissue. The connective tissue stroma composing the submucosa appears embryonic in character. The mucosa is largely displaced by a smooth modified connective tissue containing a few remnants of gland tubes.

The lungs: Show marked emphysema, moderate anthracosis and chronic adhesive pleuritis. No new growth found.

The kidneys: The capsule is thickened. The stroma is diffusely increased strongly resembling beginning sarcoma. These appearances are however unlike the primary and are not to be considered as secondary new growth. The parenchyma shows early cloudy swelling, many obliterated glomeruli and a few cysts.

The mesenteric glands: The tissue consists almost entirely of sarcoma surrounded by a capsule of adipose tissue. These appearances represent secondary infiltration.

The adrenals: The mottled area spoken of above proves to be an adenomatous change in the parenchyma. The parenchyma is atrophic in areas. The stroma is increased and has changes embryonic in character and not unlike beginning sarcoma. No secondary sarcomatous areas found. The adrenals show marked congestion of pigmentation.

The question of malignancy in any part of the anatomy always brings up the discussion of the etiology. Whether to accept Conheim's theory or the parasitic one or to evolve some new theory entirely, is one of individual choice. We can, however, agree upon

one point, and that is that we are not all a unit on any one theory. Outside of the theoretical side of the question the disputed point of how much a factor is irritation in the cause of malignancy, especially in the nose, is a much discussed one. The first two cases in my report show distinctly the transition stage between a benign and a malignant growth. Was this change brought about by trauma or by irritation produced by repeated operations is difficult to decide. I believe, although I can not prove it, the operations did cause the change. Watson accounts for the change by believing that since tissues of the same type may change from one to the other (Metaplasia), that we can have, arguing from the same basis, changes from a benign to a malignant growth. Since we know that myxomatous tissue is the lowest grade of connective tissue, and does undergo many and varied changes, why is it not reasonable to suppose that it may change from benign to malignant. Olney in a most excellent article on "Chronic irritation in the etiology of carcinoma" concludes that "Chronic irritation, mechanical or chemical, produces a cellular proliferation sometimes giving rise to a papilloma or adenoma, and sometimes, when the resistance of the opposing tissues is slighter or the irritation longer continued, to a typical carcinoma." All are agreed I believe, that we do have areas of malignancy in benign growths. How much influence trauma or irritation has on producing malignancy can be better worked out from the study of those parts that are more exposed to trauma, and especially in which malignancy is much more common than it is in the nose, viz. os uteri, female breast, the lip, stomach and gall bladder. After it has been proven that trauma does or does not have any influence in those areas then we can more accurately judge of its influence in the nose where the condition is so comparatively rare. Johnston in his article believes that trauma does not have any influence for in the majority of the cases reviewed by him there was no history of injury, that is, of external injury. I take it, however, that injury under discussion does not mean external violence, but rather the slight irritations that come to the mucous membrane either from operations, friction of polypi or pressure from same, or the irritation produced by a chronic discharge. The etiology seems after all to hinge upon a something called predisposition.

I would be however, of the opinion that all cases of clinically diagnosed polypi which return very soon after radical removal should have a very thorough microscopical examination, irrespective of heredity, symptoms subjective or objective (especially epistaxis), which might point to malignancy.

In respect to the question of heredity we can not come to any definite conclusions. If there is a clear history of cancer in the family we accept it as the result of inherited predisposition; but if there is no such history then we have no positive evidence to the contrary for the reason that the patient may not be informed as to the exact nature of the disease which caused the different members of his family to pass away, or perhaps the physician himself is not quite clear as to the cause of death, and if not permitted to make an autopsy he and the family are forever in the dark. For example, in the last case here reported, had the patient died from hemorrhage of the bowels before his nasal condition had been recognized and no autopsy had been allowed, the death certificate would have been signed "hemorrhage from the bowels" and his descendants would never have given a history of malignancy in their family. I take it that such a condition is not at all far-fetched, hence any negative history of malignancy is in no way conclusive evidence of its non-existence.

In conclusion, permit me to say that I think one should report in full every case of malignancy in the nose that comes under observation, so that in time we may have a wealth of material from which to draw conclusions instead of the few reported cases we now have. About sixty authentic cases of carcinoma, and about one hundred and fifty of sarcoma have been reported. The great majority of these reports, however, are so meagre that it is impossible to arrive at any accurate conclusion. And, further, in all cases that have been reported cured, if there has been a return of the malignancy, the same should be reported in full, with such additional data as there may be, giving the date and place of reference of the first report.

ADDENDUM.

While the above report of cases was being read, the patient reported as Case III died on the morning of September 17th, from exhaustion due to inability to swallow for the last three weeks. The report of the autopsy conducted by F. P. Anzinger and J. C. Easton follows:

Autopsy on Mrs. G., at 9.30 a. m., September 18th, 1905: Body of short build. Chest large and rounded. The skin well nourished, Panniculus large in amount but soft and flabby. The face appears slightly emaciated but is symmetrical. No swelling or induration noted. Hair moderate in amount and grizzled. Muscles small and soft. Rigor mortis throughout. Hypostasis in pendant parts. (Body has been embalmed.)

Head: The scalp is negative. The skull cap is thick throughout. The dura is distended with fluid. The brain is removed *en mass*. On external inspection, it shows no evidence of new growth. The vessels composing the Circle of Willis are very thin and parchment like. The cranial nerves appear normal. The base of the skull, corresponding to the body of the sphenoid, is replaced by a soft, white, slightly nodular growth. This growth replaces completely the Sella Tursica, the Basilar process, the Wings of the Sphenoid and farther forward the Hard Palate. All of this tissue is removed *en mass*. On section it is soft and in places gritty. The bony framework is entirely destroyed. The cut surface appears uniformly greyish-white, with very little evidence of organization. The frontal sinus is patent and free from pus and new growth. The ethmoidal cells and the right Antrum of Highmore are filled with an offensive purulent detritus. A probe is passed forward through the antrum and the tip may be felt anteriorly under the skin. The maxillary bone is disintegrated. The orbital cavities are intact, and on opening with a chisel the soft tissues appear practically normal.

Thorax and Abdomen: Panniculus golden yellow, very soft and oily. Cartilages of ribs completely ossified. Intestines appear normal. Liver appears normal, and is free from visible secondary growths. The Pancreas is negative. The Spleen has a few whitish nodules on the surface, otherwise negative (new growth?).

The Kidneys and Adrenals show no gross pathological changes. The Stomach is of normal size and appearance. Uterus and its appendages show senile changes. The Heart is of normal size and appearance. The Lungs are free and air containing. No enlarged glands or secondary growths found in the thorax or abdomen. (A description of the more subtle pathological changes in the viscera is impossible owing to changes induced by undertaker's fluid).

Microscopic examination of post mortem tissue: Growth in Sphenoid body. Typical picture of small spindle cell sarcoma. A few remnants of decalcified bone tissue are found. (This growth is probably primary.)

Spleen: The capsule is thickened, the stroma shows congestion and atrophy of the follicles. A few small hyaline area are noted near the surface. No new growth.

Liver: Moderate fatty degeneration and infiltration. Increased hematoïdin pigment in the intralobular zone.

Kidneys: Atrophy of the stroma, slight cystic changes near the surface, beginning cloudy swelling and congestion.

Adrenals: Normal.

Pancreas: Moderate fatty infiltration between the lobules.

Heart: The muscle shows moderate fatty degeneration.

Uterus and Ovaries: Senile fibrosis.

Brain and Cord: No pathological changes noted.

Optic Nerves: Both show congestion and slight oedema. The right nerve within the orbital cavity shows slight infiltration of new growth in the loose cellular tissue surrounding the sheath.

Diagnosis: Small spindle cell sarcoma of the sphenoid bone. (Primary?) Sarcomatous infiltration of the Ethmoidal cells, the Antrum of Highmore and the Hard Palate. Microscopic infiltration of new growth in the right optic nerve sheath. Slight atrophy, congestion and hyaline degeneration of the spleen. Moderate fatty degeneration and infiltration of the liver. Slight atrophy, cystic change and early cloudy swelling in the kidneys. Moderate fatty infiltration in the Pancreas. Slight fatty degeneration of the Heart muscle. Senile changes in the Uterus and its appendages.

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Serous Meningitis of Nasal Origin.—J. HERZFELD.—*Berl. klin. Wchnschr.*, March 6, 1905.

During the operation for frontal sinusitis, the posterior wall was found wanting and the dura bulging into the sinus. Upon incision serous fluid escaped in large quantities. Two weeks later the patient was seized with convulsions and coma. An opening was made into the skull over the frontal lobe and the lateral ventricle opened, and more serous fluid escaped. The patient eventually recovered.

YANKAUER.

TWO CASES OF RHINOSCLEROMA.*

BY ERNST DANZIGER, M.D., NEW YORK.

CASE I. Mrs. E. N.; Jewess, thirty-seven years of age, without inherited or acquired taint, and without other interesting features in her history; born in Bukowina, Austria; had a severe cold in her head, three years ago, and since then she has had slowly increasing obstruction to nasal respiration, especially on the left side.

When she first arrived in this country two years ago, a physician removed a growth from the left side of the septum in its lower part. Eight months later the growth had recurred and was again removed and its base thoroughly curetted. This wound never healed, and three months ago she came under my care.

There was then absolute occlusion of the left nostril and an ulcer extending from the septum for one-fourth of an inch on the upper lip. This ulcer was covered scantily with secretion and looked reddish brown, covered with a number of whitish dots. Its base felt hard and infiltrated. The ala of the same side was indurated and of ivory hardness. The septum on the right side is also thickened and covered with dry scaly crusts which bleed freely when touched; the right ala is infiltrated and hardened and the right nostril quite stenosed. A piece was removed from the ulcer of the left nostril for microscopical examination, for which I am indebted to Dr. S. Pollitzer, who found the typical picture of Rhinoscleroma and demonstrated beautifully the colloid cells of Mikulitz.

Enough of the growth was then removed to enable me to introduce a perforated splint (tube) which the patient has now worn for three months without annoyance and with complete relief of the obstruction to the nasal respiration. The disease extends backward only as far as the cartilaginous septum.

About a week ago, I removed enough of the growth on the right side to introduce an "Asch" splint. I took particular care not to cut through healthy tissue, as I firmly believe that by so doing I prevent the further spread of the infection. In the two previous operations a rather radical removal had been attempted with the result, that the infiltration immediately extended to the area invaded.

* Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, October, 1905.

I do not believe, that a radical removal will put a stop to the further progress of the disease, just as in Syphilis the excision of the initial lesion is of no avail.

The Larynx and Pharynx are perfectly free.

CASE II.—Jewess, about fifty years of age, born in Galicia, Austria; without any important features in her history; presented herself to me four years ago on account of obstruction to nasal respiration on the right side, tinnitus in the right ear and dyspnoea with stridulous inspiration. She had been sick for about five years. Her nose showed the same infiltration as Case I; no ulcerations. Inspection of the oral cavity showed a total absence of the uvula, which seemed to have been replaced by scar tissue, and starting from this location a number of fibrous bands traversed the soft palate like a fan. There was also an infiltration of the right fossa of Rosenmueller, causing an occlusion of the Eustachian tube. In the larynx there were two large white masses underneath the glottis. I proposed the use of Schroetter's dilating tubes for the relief of the dyspnoea; but she disappeared from my observation.

28 East 126th St.

An Unusual Case of Laryngeal Obstruction.—F. J. T. SAWKINS
(Sydney).—*Austral. M. Gaz.*, March 21, 1904.

A child twenty months old was in a condition of advanced dyspnoea from laryngeal obstruction. There was no evidence of diphtheria. Finally tracheotomy was done and later very greatly enlarged faucial and naso-pharyngeal tonsils were removed. The tube was worn two months, any attempt to dispense with it causing alarming attacks of dyspnoea. Under anesthesia, the larynx was repeatedly examined with no result. But eventually, during a laryngoscopic examination, as the mirror was being withdrawn, a rounded body was seen slipping into the interval between the epiglottis and larynx. Further observation showed that this was repeated at each inspiration; and, on lateralizing the mirror, the body was seen to be the tip of the uvula. The mirror had on previous occasions lifted the uvula, so that the phenomenon could not occur. Amputation of the uvula removed the entire trouble and the tracheal tube was permanently removed.

EATON.

A CYST OF THE PHARYNGEAL TONSIL.*

BY WILLIAM WESLEY CARTER, A.M., M.D., NEW YORK.

In September, a child of seven years presenting the usual symptoms of adenoids and hypertrophied tonsils was brought to Dr. Wright's clinic at the Manhattan Eye, Ear and Throat Hospital. There was nothing of unusual or special interest in either the past or present history of the case.

On palpation a mass the size of a filbert was felt in the median line near the vomer; it seemed smoother and somewhat more resilient than the usual adenoid, but nothing out of the ordinary was anticipated. The mass was removed with the adenoid forceps, and was found to be practically one large cyst with moderately thin walls. (The illustration shows scarcely more than the opening in the cyst made by the instrument, as the walls collapsed easily, and it was difficult to show the cavity in this way.) The contents escaped, and were so mingled with the blood and secretion from the pharynx that their character could not be determined.

Dr. Wright, who made a microscopical examination of the specimen, reports that the walls of the cyst are lined with epithelium, which is so infiltrated with round cells, and in places so absorbed by pressure, that it is difficult to recognize as such. Beneath this epithelial lining are regularly arranged lymph nodes. The lymphoid tissue itself presents no deviation from usual appearances.

Cysts in the naso-pharynx are formed in three ways: *First*, by *Inclusion*, that is by the agglutination of two folds of the mucous-membrane during inflammation. If this agglutination is incomplete a sinus is formed, if complete a cyst results. A cyst of this origin is said to be fairly common in this locality. It was first described by Mayer in 1842, he considered it a normal structure and called it the *Pharyngeal Bursa*. Luschka and Tornwaldt were among those who accepted his views, and they attributed certain cases of persistent naso-pharyngeal catarrh to inflammation of this bursa, and to the existence of sinuses formed in the above-mentioned manner. Subsequent observers have shown that the pharyngeal bursa, so called, is not a normal structure, but that it is undoubtedly of inflammatory origin.

* Case reported at the November meeting of the Laryngological Section of the New York Academy of Medicine.

Secondly, cysts may be formed by a dilatation of racemose glands. These, however, are uncommon, as glands of this character are seldom found in this locality.

Thirdly, cysts in the pharyngeal tonsil itself. These are rarest of all. I have been able to find records of only three in the American literature. One was reported by Dr. Lamphear, and two by Dr. Jonathan Wright. Formerly, it was supposed that these cysts resulted from a dilatation of the lymph spaces in the tonsil, but from



Cyst of the Pharyngeal Tonsil.

a study of his last case in which he was able to observe the nature of the contents of the cyst, Dr. Wright concluded that these cysts are the result of fatty degeneration, and that it is a rare manifestation of the retrogressive changes which this tissue normally undergoes. This we believe to be the explanation of my case.

Cysts of this character have really no pathological significance, they merely illustrate one of nature's methods of disposing of superfluous lymphoid tissue.

69 West 50th Street.

FOREIGN BODY IN THE MAXILLARY ANTRUM.

BY BARTON H. POTTS, M.D., PHILADELPHIA, PA.

E. H. was admitted to the Marine Ward of the German Hospital under the care of Dr. Fairfax Irwin, through whose courtesy the case was referred to me. The patient was suffering from an attack of influenza. During convalescence he called the resident physician's attention to the fact that he was troubled by a constant discharge into the mouth. Examination showed a sinus, opening into the region of the canine fossa, through which a probe passed freely into the maxillary antrum. Patient said that five months previously, he had had an attack of influenza following which there was considerable pain and swelling about the cheek. This pain lasted about six days, and was relieved following a flow of pus into the mouth. This flow has persisted ever since. Operation was advised.

The usual free incision of the mucous membrane was made, and the region of the canine fossa easily uncovered, showing a sinus through the bone, the diameter of which was about 1 c. m. This opening was enlarged and the antrum found to be full of pus and granulations.

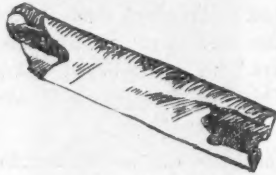
Upon starting to clean out the cavity the presence of some hard substance was discovered, but its character could not be determined on account of the granulation tissue surrounding it. The first thought was that it might be a large septum extending from the posterior wall, but when grasped with a pair of forceps it was found to be loose, and the surprise of the operator and his assistants was great when a piece of hard rubber pipe stem, measuring 4.5 c. m., in length, as shown in the cut, was withdrawn. When the facts of the case were told to him the following day the patient, almost at once, said he could tell when the accident had occurred.

He said that just about ten years previously he had been smoking a pipe while riding horseback and was thrown. The tip of the pipe-stem he spat out of his mouth and the bowl was found; but, not being able to find the stem, he had concluded that it had been knocked to some distance and lost.

Questioned as to his symptoms at the time of the accident, he said that there had been considerable bleeding into the mouth and some

soreness. These symptoms disappeared entirely within a few days, and he supposed his mouth had been cut. There were no further symptoms until his first attack of influenza.

The writer has been unable to find any similar case on record. Gifford, in the *Ophthalmic Record*, April, 1905, reports a case in which the screw of a breech-lock was carried in the antrum for two years, but this caused a chain of symptoms which led to operation. The writer's patient carried his pipe stem for nine and a half years absolutely without symptoms and it was only when the mucous membrane was inflamed during the attack of influenza that this foreign body caused any trouble.



The first examination so clearly demonstrated chronic suppuration that it was not thought worth while to use the X-ray, as the writer is doing in his cases, but the stem was reintroduced into the antrum and an exposure taken with the hope of making a clear demonstration of the foreign body *in situ*. The material in the stem was not sufficiently dense and only a very faint shadow resulted. The X-ray is of value, however, not only in searching for foreign bodies, but in demonstrating the presence of pus in the antrum.

109 S. 20th St.

A CASE OF BILATERAL EXTRADURAL ABSCESS COMPLICATING MIDDLE EAR SUPPURATION FOLLOWING TYPHOID FEVER.

BY HAROLD BAILEY, M.D., WATERLOO, IOWA.

Much has been written of late on the throat and ear complications of typhoid fever, and perhaps much more must needs be said before the profession as a whole shall obtain a full appreciation of the untoward possibilities of the running ear as a complication of this disease. The prophylaxis of this complication lies with the physician in charge of the case, not with the specialist, and to him also comes the opportunity for successful treatment during its early stages. The early inspection of the drum head following the patient's first complaint of pain or discomfort in the ear, if carried out as a routine procedure by the attending physician, would deprive the aurists of many interesting cases of mastoid and intracranial complications. It must, however, be admitted as equally true, that many cases in which the middle ear complication is detected in its incipency and skillfully treated from the beginning, will go on to mastoid and intracranial involvement.

In the case referred to in the title of this article this unfortunate occurrence happened first on one side and later on the other. The clinical history is briefly as follows: Mrs. W. L. K., age twenty-three; had always enjoyed perfect health until January, 1904, when she contracted typhoid fever. The disease ran an uneventful course up to the end of the fourth week at which time she complained of pain in the right ear. This was followed in twenty-four hours by pain in the opposite ear. Paracentesis in the posterior portion of the right membrana tympani was performed by the attending physician. This gave immediate relief from all pain in that ear. On the day following the paracentesis of the right membrana tympani, occurred the spontaneous rupture of the left membrana tympani, with rather profuse purulent discharge. The pain, however, continued unabated.

A few days later, I saw the patient for the first time. There was slight tenderness over the tip of the right mastoid but no swelling or redness. Pus was discharging through the paracentesis opening in the drum. There was no bulging of the drum head and no swelling of the external auditory canal. The left mastoid was slightly

tender throughout, but most marked at the tip. There was no swelling or redness. The left membrana tympani was bulging and congested. A small amount of pus was being forced through the small aperture in the drum membrane which was quite inadequate in size to permit of free drainage. There was no swelling of the external auditory canal. Temperature 101°. Pulse 110. I enlarged freely the opening in the left membrana tympani, ordered ice applied to both mastoids, and the ears carefully mopped out and drained with gauze. The bacteriological examination of the pus showed pneumococci present in both ears. There were no other organisms present.

One week later, I heard from her family physician that all pain and tenderness had disappeared, and the temperature was again normal, but the discharge continued profuse. Our patient convalesced rapidly from the fever and went out to the western part of the state to visit friends. I heard nothing from her until June 5, when she came in to my office complaining of severe pain in the left ear which had been of one week's duration, and was growing daily more severe. She complained of having had two or three attacks of dizziness during the past two days. Examination revealed a marked tenderness of the mastoid both over the upper part and at the tip, also some swelling. The ear was discharging freely. Pulse 95, temperature 100°. She was taken to the hospital and operation was performed the following morning. Immediately on chiseling through the outer table of the mastoid, pus welled up from a cavity in the upper portion of the process. This cavity was continuous with the antrum and was filled with granulations. The granulations were carefully cleaned out with a sharp spoon when a small fistulous opening through the inner table directly over the lateral sinus was exposed. Upon enlarging this opening nearly a dram of pus escaped from between the dura and the skull. All diseased bone was removed, and the operation completed by removing bridge and overhanging edges of bone in accordance with the method now known as "The Radical Operation." Convalescence was uneventful. The post-auricular wound was permitted to close in five weeks, and the result was all that could be desired.

The patient continued to come to my office daily for treatment of both ears. The discharge from the right continued most profuse and the opening in the drum grew rapidly smaller, and had to be enlarged several times during the few weeks following. On the 9th of September, when she came in for treatment, she informed me that she had been having severe pain behind the right ear for three

or four days, which was getting more intense each day, and that for the past two days, she had been so dizzy that only with difficulty had she been able to keep the sidewalk on the way to and from my office. There was no swelling over the mastoid and no redness. Only on deep pressure could any tenderness be elicited and then only slight. The discharge was unchanged in amount. Temperature 101.5° , pulse 118. She was taken at once to the hospital and operated on the next day. Pus was first disclosed deep down in the mastoid near the tip. On opening the process farther up, a cavity lined with granulations and filled with pus was disclosed. A sequestrum measuring roughly 5 by 10 m. m. occupied this cavity and was lifted out with forceps. After removing all granulations and checking the oozing, I proceeded to explore the walls of the cavity with a fine probe and readily passed the probe through the roof of the tegmen antri. The withdrawal of the probe was followed by the appearance of two or three drops of pus. This small opening was carefully enlarged giving exit to a considerable quantity of pus. The opening was still further enlarged, all necrosed bone was removed and the subsequent steps of the operation completed as described in connection with the opposite side. The morning following the operation it was noticed that patient had a complete facial paralysis on that side. All drainage was dispensed with after the fifth week and the wound allowed to close. The paralysis persisted for four months without any apparent improvement, after which time it slowly but steadily cleared up and at the present time has entirely disappeared. The discharge from either ear persisted for several months in gradually decreasing amount and is now quite stopped in the left ear and nearly so in the right. The hearing is especially good in the left ear following a radical operation, ordinary conversation being understood without difficulty. In the right ear the functional result is not so good. There is no tinnitus in either ear and aside from the necessarily slight impairment of hearing, the result is all that could be desired.

This case has been one of especial interest to me, not so much on account of the result, which is not at all exceptional, but as another example of the insidious and treacherous manner in which the running ear of typhoid may result in intracranial mischief. The coincidence of an extradural abscess occurring first on one side, in the posterior fossa, to be followed in three months by a like complication, but occurring this time in the middle fossa, on the opposite side is also, I believe quite unusual.

FOREIGN BODY REMOVED FROM THE RIGHT BRONCHUS; PRESENTATION OF PATIENT AND HISTORY OF THE CASE.*

BY CHAS. A. ELSBERG, M.D., NEW YORK.

Esther P., four years of age, was admitted to the Mt. Sinai Hospital on September 15th, 1905. Thirty hours before, the child had swallowed a pin about 1 1/2 inches long, with its head first. Immediately after, she began to retch, vomited some bloody mucus and complained of pain and discomfort in the chest. After a few hours these symptoms disappeared and the child felt perfectly well again. She was kept on fluid diet, and the stools were watched for the pin but none was found. The child had had no pain in swallowing or other symptoms.

When the child was admitted to the hospital, the temperature and pulse were normal, but some peculiar bleating sounds were to be heard over the lower part of the right chest, behind. With the X-ray, the pin could be plainly seen with its head downward in the fifth intercostal space, a little to the right of the median line.

On account of the history of swallowing of the pin and the consequent vomiting, an oesophagoscope was first passed, but except for the presence of a small area of congestion at about the level of the pin, nothing was found.

On the following day, the patient developed signs of fluid in the right chest with signs of consolidation, with high temperatures and a rapid pulse. The presence of the pin in the oesophagus having been excluded by the oesophagoscope, it was more than probable that the pin lay in the trachea or right bronchus.

On September 18th, Dr. Emil Mayer was kind enough to bring his bronchoscopic instrumentarium to the hospital. (I did not possess any at that time.) Under chloroform anesthesia, Dr. Mayer passed the bronchoscope, and attempted to see and locate the foreign body. It could not be found, and prolonged search was deemed unjustifiable on account of the poor condition of the little patient.

I then proceeded to do a rapid low tracheotomy, and then passed a moderately sized endoscopic tube through the tracheal opening and into the right bronchus. This was accomplished with ease and the head of the pin was at once seen lying in the right bronchus.

* Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, October, 1905.

The shaft of the pin could be followed upwards for about $1\frac{1}{2}$ inch until it became buried in the wall of the bronchus. The attempt was then made to free the point of the pin by pushing the head downwards with forceps passed through the tube, but this procedure was not successful because, as could plainly be seen, the head of the pin was too large to pass into any of the divisions of the right bronchus. The secondary bronchi could be seen very plainly, and the attempt was made to press the head into each one of these, but it would not engage in any of them. I deemed it too dangerous to grasp the pin at its head and forcibly extract it, inasmuch as at least one half of the shaft was imbedded in the wall of the bronchus and trachea, and much injury surely would be done. All efforts to free the point of the pin were unsuccessful until I finally tried the following procedure. The shaft of the pin was grasped with slender forceps as far away from the head as possible, and the endoscopic tube then pushed down, the pin being firmly held by the forceps. By means of this procedure, the point of the pin was freed from the wall, and the shaft of the pin gradually bent into full view, until the point was swept into the left bronchus. By repeating the procedure the pin was bent upon itself and, with the point and the head both pointing downward, could be grasped at the angle and easily extracted. A tracheotomy tube was then inserted.

The after history of the case can be summed up in a few words. The signs in the chest disappeared within two days, the temperature and pulse fell to normal, the tracheotomy tube was removed at the expiration of one week, and the wound healed up rapidly. Convalescence was interrupted by an attack of measles.

Madison Ave. and 63rd.

A Case of Foreign Body in the Larynx.—S. BENTON.—*Hosp. Tid.*, Copenhagen, No. 8, 1905.

A boy of three years falls, striking on the buttocks, and immediately becomes unable to speak, with stenotic respiration, but without cyanosis. Later a superior tracheotomy is performed, and after six weeks a wire 5 cm. long bent double is removed per viam naturalem. Recovery with natural speech.

KLAER.

ELEVATOR, SPECULUM AND FORCEPS FOR USE IN THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM.*

BY L. M. HURD, M.D., NEW YORK.

The elevator, is a double ended instrument, the sharp end resembling a Volkmann curette, except that the cavity of the spoon is filled with metal, the other end made of copper, blunt and rounded. The flexibility of the copper allows this blunt end to be bent in any way desired.



Dr. Hurd's Elevator.

The speculum is to be used after the cartilage has been removed with a Ballenger knife. The long blade is passed between the membranes, and the instrument is held with the left hand, with the long blade uppermost at all times.



Dr. Hurd's Speculum.



Dr. Hurd's Forceps.

The down cutting forceps is intended for use on the anterior nasal spine of the superior maxilla, and on the vomer after the cartilage and bone have been removed from above.

The advantages of this forceps are that no assistant is required, it will never injure the mucous membrane as the chisel is liable to do; it keeps the parts well in view and secures a much smoother edge than that obtained by the chisel.

15 E. 48th St.

* Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, October, 1905.

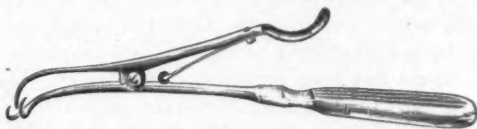
A NEW TONSIL TENACULUM.

BY ALICE G. BRYANT, M.D., BOSTON, MASS.

The accompanying figure shows a tonsil tenaculum that has worked admirably in operations upon the tonsils, not only in private practice, but in my clinic at the Pope Dispensary and in my service at the New England Hospital for Women and Children.

Its points of advantage are: a. Simplicity of construction. b. Shortest possible time consumed in adjusting and releasing. c. Non-obscuring of field of vision. d. Leaving operator free to use both hands. e. Adapted for right or left tonsil. f. Avoidance of injury to patient.

A few salient features of the instrument are as follows: The tenaculum is worked by a strong wheel-bearing spring, constant and uniform in action. The tonsil is held by three prongs, two of which seize it at the base, and the third comes in between the two at apex



Dr. Bryant's New Tonsil Tenaculum.

giving a secure hold, especially helpful in friable tonsils. The distal arms are locked beyond range of the uvula and are separated on approximation by a steel block, thus preventing injury to the uvula. It will be seen that neither the wire nor canula of the tonsil snare can interfere with the hinge of the tenaculum by slipping in between the arms at an inopportune moment. The horizontal convex curve of the shorter arms and the shape and size of handles, leave the line of vision and field of operation unobstructed, desirable in those operations requiring the use of the snare. The upper handle is shorter than the lower straight handle and terminates in an open curved projection upon which the thumb rests, assisting in guiding the instrument. The slightest pressure upon the handles adjusts or releases the tenaculum.

• Its length is 21.5 centimeters and weight is 113.40 grams. It is made by Codman and Shurtleff of Boston.

416 Marlborough St.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Regular Meeting, October 25, 1905.

LEWIS A. COFFIN, M.D., Chairman.

PRESENTATION OF CASES.

Double Frontal Sinusitis; Operation.—By R. C. MYLES, M.D.

DISCUSSION.

DR. FREUDENTHAL said that he did not quite understand why Dr. Myles had made the incisions described. According to his experience all these parts could be reached by the ordinary incision over the eyebrow. He had operated on a patient a few years ago and you could not see any disfigurement at all; and he did not understand the advantages derived by the method described by Dr. Myles. Last winter he had presented a number of cases before the section in which the results had been remarkably satisfactory. He thought that a woman particularly would object very much to these large incisions. He would like to know Dr. Myles' reasons for making them. It seemed to him that the radical operation for frontal sinusitis was a very serious operation.

Frontal Sinus Case.—By C. G. COAKLEY, M.D.

Sarcoma in the Right Nostril.—By S. McCULLAGH, M.D.

J. G.—female, age twenty-seven; married; two years ago first noticed nasal stenosis on right side accompanied by discharge. Stenosis has been gradually increasing until at present there is total occlusion. No pain or tenderness. No palpable enlargement of glands in neck. Slight redness of skin and swelling at junction of nose and cheek. Large congenital osteoma in right temporal region.

Examination shows right nostril occluded by a mass of a deeper red color than the normal mucosa. The present ulceration in the naris is due to the removal of a piece of the tumor for microscopic examination. The septum is pushed into the left naris almost occluding it. The hard palate is very irregular with the greatest

prominence on the left (opposite) side. Mucous membrane covering it is a dirty gray color. This irregularity is congenital. The right alveolar border, posterior to the insertion of the lateral incisor is thickened. There has been no second dentition here. Posterior rhinoscopy shows the mass filling the right posterior naris.

Microscopic report by Dr. J. Wright: Fibrous connective tissue containing many spindle and ovoid cells. Thickly scattered throughout are many giant cells varying somewhat in size, typical of giant-cell sarcoma.

Case of Sarcoma.—By C. G. COAKLEY, M.D.

Nasal Polypi and Sarcoma.—By MAX TOEPLITZ, M.D.

DISCUSSION.

DR. FREUDENTHAL said that he had seen about six of these cases of sarcomata. The last one, about four or five years ago, reminded him very much of this one to-night; but it was in an older person, sixty-five or seventy years of age. Dr. Dawbarn did the operation and the woman recovered, but later the disease again developed and affected the eyes, and in nine months she died. This patient being so much younger, has much better chances of recovery. He thought that operation was certainly indicated.

DR. HARRIS said that in connection with the cases of sarcoma presented by Dr. McCullagh and Dr. Coakley, it might be interesting to report the condition of a patient whom he had presented at the last meeting in May. This patient was a young Swede, twenty or twenty-one years of age, with complete occlusion of the right nostril. No microscopic examination of the growth had then been made, but the consensus of opinion was that it was a sarcoma. Immediately after the meeting the patient was taken into the hospital and a number of operations were performed under cocaine in which a part of the growth was removed through the natural passages. This was examined by the pathologists, and doubt was at first expressed regarding its exact nature. One thought that it was endothelioma; but the conclusion was that it was a round-celled sarcoma. A radical antrum operation was then performed and it was found that the sarcoma had involved the antrum and the ethmoid cells. Apparently all the growth was completely removed, and the young man made a rapid recovery. He remained under observation for six weeks or more after the operation and there were no symptoms of a return of the growth. He had not been heard from lately. At some of the minor operations there was con-

siderable hemorrhage, but at the time of the radical operation there was no trouble of this kind. Almost all of the outer wall of the nose was removed.

DR. LEDERMAN said that he would like to refer to a case of small round-celled sarcoma involving the right side of the nostril, the sphenoid bone and also the maxillary antrum. The patient, a man twenty-six years of age, was operated upon by Dr. Dawbarn in June, 1895. This patient had come under the class of inoperable cases. The external carotid artery was first ligated and then excised on one side, and a week or ten days later on the other side. On January, 1896, the radical operation was done, as the growth had started to assume greater proportions. An entire excision of the right superior maxilla, without taking away the floor of the orbit, was performed. A portion of the basilar process was also removed. The operation was a very bloody one. It is interesting to know that after the first ligation of the external carotid on the right side, the tumor shrunk to about one quarter of its original size in a space of nearly four months.

This patient was presented before the Surgical Section, I understand, during the early part of this year, still in good condition.

Two Cases of Rhinoscleroma—By ERNST DANZIGER, M.D. (*Published in full in this issue of THE LARYNGOSCOPE, page 935*).

Foreign Body Removed from the Right Bronchus. Presentation of Patient and History of the Case.—By CHARLES A. ELSBERG, M.D. (*Published in full in this issue of THE LARYNGOSCOPE, page 944*).

DISCUSSION.

DR. EMIL MAYER said that he was enabled through the courtesy of Dr. Elsberg to see the case here presented before the removal of the foreign body, and had attempted to introduce the bronchoscope into the larynx previous to tracheotomy. The attempts at introducing the instrument into the small aperture resulted in inducing the cyanosis, and might have had a fatal effect if persisted in; and so the speaker promptly desisted from further efforts in that direction and advised tracheotomy, which was done, with the result as shown.

In this connection the speaker wished to place on record, a case not hitherto recorded of a foreign body in the bronchus.

On September 28th, late in the afternoon, he was requested to assist in the removal of a foreign body in the bronchus, in a five

year old boy, the removal to take place the next day at four p. m. The child was in the hospital at the time, and the hour was arranged to suit the attending surgeon and the speaker. The condition of the child previous to removal was very bad. Pneumonia had set in with the concomitant pulse and temperature. Bronchoscopy was attempted through the natural passages, but promptly abandoned and under chloroform, Dr. MacWilliams, the attending surgeon did a low tracheotomy and then with the aid of the bronchoscope the speaker removed a large bean in pieces, it having been macerated. The bean lay at the bifurcation in the right bronchus. The completeness of the removal of the obstruction was shown by the entrance of air into the formerly obstructed lung, corroborated by Dr. Northrup who was present. Fourteen hours later the child died of the pneumonia.

There was a lesson in this case which the speaker wishes to emphasise, and that was that it was dangerous to wait at all before attempting the removal. In the case reported by Dr. Yankauer before this section the speaker insisted on its immediate removal, and the result was that no maceration of the foreign body had occurred, and no pulmonary symptoms followed. In the present instance, the attending surgeon wished to have the bronchoscopy for the next day the speaker did not insist in its immediate performance. Four days had already elapsed before the child was brought to hospital, and while it was quite likely that the result would have been the same had bronchoscopy been done earlier, yet every hour counts. Hence he would say in conclusion, that bronchoscopy in children is most practical if low tracheotomy is done, and that every hour counts in giving the patient the chance of recovery.

The outcome of Dr. Elsberg's case reflects great credit on the skill and technique shown by the operator which the speaker was glad to have witnessed.

Foreign Body in Nostril.—By HARMON SMITH, M.D.

M. P., age four; fell down when running in the park; yelled, and nose bled slightly, but he continued playing. The following day breathed badly through nose, and mother consulted family physician, who could observe nothing but a slight external contusion.

On the third day, however, the mother was advised to consult Dr. Chappell. Examination revealed a marked swelling of septum on left side, and a moderate swelling on the right. The inferior turbinate on left side was in contact with the septum; but on shrinkage

of the tissues nothing was observed except the congestion expected from a fall.

The patient was not seen again for three weeks, when the mother brought her to me in the absence of Dr. Chappell, and stated that the child's breathing was not good; and that she was constantly hacking and trying to draw something down posteriorly. She had been restless at night and had had some fever. Upon examining the nose, I found considerable granulations, and a marked swelling of the inferior and middle turbinates, which yielded only partly to adrenalin. I also extracted a small piece of bark from amidst the granulations, and believing this the cause of the disturbance, I gave her a warm saline *douche* and saw her from time to time for two weeks. The patient was extremely nervous, and no satisfactory examination could be made, so I advised the mother to take her to the seashore for a while and bring her again in ten days when a general anaesthetic could be administered, and a proper exploration could be made. I thought however, that only a small abscess had resulted from the traumatism, and did not suspect the presence of such a large foreign body. The patient did not return as advised and only reappeared in September, when she again saw Dr. Chappell. The little girl had had headache accompanied with vomiting at intervals, all summer. She had lost weight, coughed frequently and complained of a dropping in the throat continuously.

Upon looking in the nose he saw only granulation tissue. Externally there could be detected a little swelling, hard and unresisting, about one-eighth inch below and external to left nasal bone. He concluded that some foreign substance was present, and upon probing found something offering resistance like dead bone. Caught this with forceps and extracted the piece of stick presented, which is nearly two inches long, and the size of a lead pencil.

The stick had entered the middle fossa, and extended well up behind and external to the middle turbinated body, and occupied a position between this and the inner wall of antrum. After removal, the symptoms all disappeared, and the patient made a rapid recovery.

Some Observations made this Summer in the Throat Clinics of Germany.—By C. G. COAKLEY, M.D.

PRESENTATION OF NEW INSTRUMENTS.

Improved Instruments for the Removal of the Naso-Antral Wall.—By R. C. MYLES, M.D.

DISCUSSION.

DR. MAYER said that he had used the instruments presented by Dr. Myles, but had found that after the instrument was introduced into the antrum a slight turn of the hand would so turn the instrument that it was difficult to know just where was the tip. It would be a simple matter to have it so marked that this could be seen distinctly. It was also important that these instruments should be made as firm as possible, for he had had one break off in the antrum, though fortunately it was at a place where it did not interfere with the operation. He would also suggest that it might be well to have a universal handle for all these instruments. This was perfectly feasible and would facilitate the use of the instruments. He believed that this operation through the nose was the coming one for antrum work. In one case where he had operated recently it was surprising to see how promptly the patient, a young woman, obtained relief from a purulent secretion which had been going on for a long while. In three day's time that was all changed, and the nose was in a normal condition.

DR. YANKAUER said that he had used the antrum instruments shown by Dr. Myles in three cases, and they certainly enabled the operator to make the opening into the nasal wall of the antrum of any desired size. In the three cases he had made a triangular shaped opening, wide below and narrow above. These openings are apt to close, and if the opening is made wide at its lower part it will remain patent near the floor and keep up a permanent drain. The cases were all operated with cocaine, without pain and with very little reaction, the patients going home immediately, no pain or discomfort following. In one case he had gone through the ethmoid cells and with the reverse chisel had entered the posterior ethmoid cell and sphenoid cavity. The patient suffered from no reaction, and the discharge which had existed for a long time ceased. The cases were all old ones of long standing, and the discharge ceased promptly as soon as the drainage was established.

Forceps and Speculum for Use in the Submucous Resection of the Nasal Septum.—By L. M. HURD, M.D. (*Published in full in this issue of THE LARYNGOSCOPE, page 946*).

DR. COAKLEY showed an instrument used by Killian in septal work.

Inhaler for Use with Somnoform.—By P. T. BERENS, M.D.

DR. BERENS presented an inhaler to be used with somnoform—a mixture of ethyl chloride, ethyl bromide and methyl chloride—for quick anaesthesia, in such operations as a paracentesis, incision of a tonsillar abscess, or any other requiring from sixty to eighty seconds of complete anaesthesia. He had also found this little instrument very efficient in the preliminary stage for ether. It was not only a convenient little office apparatus, but was extremely useful in a bag outfit for visiting house patients.

DR. TALBOT CHAMBERS said that he had used somnoform with this apparatus a number of times, but that he objected to the use of somnoform on account of the continuance of the pain after the anaesthesia subsided. He told of a case of furuncle of the ear which had been incised under somnoform, and after the anaesthesia had passed off, the pain was something terrible. For the induction of ether narcosis or for short operations, he felt it was admirable.

DR. NEWCOMB said that he had seen somnoform used in the London Throat Hospital, and also in Bordeaux, where it was first brought out, and there they use the same apparatus presented by Dr. Berens. He had spoken to Dr. Turrell, a prominent anaesthetist of London, about the use of somnoform, and he considers it dangerous; but he was the only one with whom he had spoken who had made any unfavorable comment regarding the remedy.

Specimen of Larynx and Trachea Containing Papilloma, from a Child of Two and a Half Years.—By D. W. K. SIMPSON, M.D.

Owing to Dr. Simpson's unavoidable absence, the history of this case was read by Dr. Thurber.

This specimen is taken from autopsy on female child two and one-half years old, who was first seen by me on June 27th, of the present year. She had been suffering from progressive laryngeal dyspnoea for a number of months previously, and on the above date was in condition of extreme suffocation and bodily emaciation.

An immediate successful tracheotomy was performed, which, after considerable effort at artificial respiration, produced great improvement in breathing. The child continued to improve in every way but at no time could she dispense with the tracheal tube.

On September 11th, I introduced an intubation tube, but it had to be abandoned, and the tracheal tube replaced after a few days. It was finally decided to perform a radical operation by opening the larynx and trachea and removing the growths, but while the child

was undergoing preparatory measures, and during the momentary absence of the nurse, she suddenly died, apparently from the clogging of the tracheal tube with thick muco-purulent secretion from below. The condition of the child previously to the accident was extremely good—giving no apprehensions of danger.

The specimen shows the larynx to be filled with papillomatous growths producing complete occlusion, also some minor areas of growths down the entire length of trachea. The tracheotomy opening is shown on the anterior aspect of trachea, and at the time of autopsy there was a large collection of muco-pus at the bifurcation. During the fourteen weeks in which the tracheal tube was *in situ*, there was considerable cough with purulent expectoration.

Tentative diagnosis of Papilloma was made at the first examination, on general principles, which diagnosis was confirmed by the appearance of broken fragments of growth in the intubation tube which was inserted for purposes of diagnosis, immediately after the performance of the original tracheotomy. Whether this is an instance of congenital papilloma, I am unable to say, as the history is somewhat indefinite, but I am endeavoring to find out. Apparently the tracheotomy did not produce any absorption of the growths.

DR. NEWCOMB remarked that Dr. Simpson had given him the history of this case, and that he was just about to start for the operating room when the house surgeon told him that the child had died the night before, although ten minutes before death it had been very comfortable. These cases of papilloma in the trachea were of great interest. Some years ago in New Haven he saw a patient of Dr. H. L. Swain, with marked stridulous breathing. Absolutely nothing could be seen in the larynx, but once in a while there would be a spell of coughing and papillomatous masses would be expelled. The patient was not willing to submit to any radical tracheal operation.

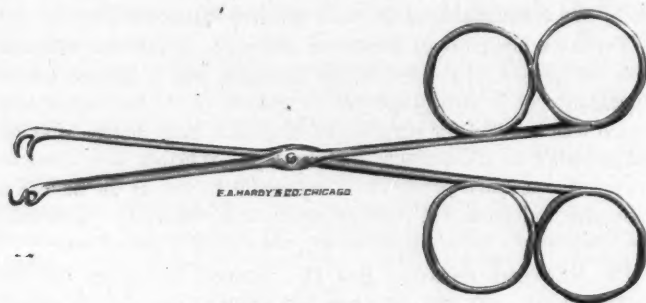
CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

Regular Meeting, November 7, 1905.

WM. L. BALLENGER, M.D., *President.*

Tonsil Forceps.

DR. EDWIN PYNCHON showed a new style of tonsil forceps which he had found to be particularly useful and valuable.



Dr. Pynchon's Tonsil Forceps. $\frac{3}{4}$ size.

Blunt Separator.

He also showed a blunt separator which he had devised. It occurred to him that in the instrument used by Hajek there were two defects. One was that the instrument proper was so short that in separating the perichondrium or the periosteum far back, it was necessary to introduce the handle into the wound. He considered this a serious defect, consequently, he had devised a blunt separator



Dr. Pynchon's Blunt Elevator. $\frac{1}{2}$ size.

in which this feature was corrected by lengthening the blade. Furthermore, while one edge of his instrument was copied after the Hajek pattern, the rear end of the other edge was made to project so as to be used in separating from behind, forward. He had found this instrument to work nicely. These two instruments are made by F. A. Hardy & Co., of Chicago.

Nasal Reflexes.—By HENRY GRADLE, M.D.

DR. HENRY GRADLE read a paper on nasal reflexes, in which he quoted instances observed by himself and others, and criticized the extravagant claims made for this topic in previous years. He emphasized, however, that there are instances which can be well-established as nervous disturbances, starting from irritative disease of the nose, and can be cured by their removal.

DISCUSSION.

DR. J. GORDON WILSON: After the splendid review which Dr. Gradle has given of the whole subject, there is very little that I can say with regard to the clinical side; I wish to confine my remarks principally to the anatomical and physiological aspects of the subject.

In discussing this subject, I may say I use the term reflex in a physiological sense. I use it in the sense that we have at one end an exciting organ, connected with a central part, which again is united with an executing organ. I object to the indefinite way in which the word reflex is so often used, attempting to classify under it various badly understood connections which supposedly may exist between various diverse parts of the body, especially if pathological changes be present in both. It is a great pity if we, in regard to this term, sever ourselves from the physiologists, because clinical medicine is becoming more scientific and we are required to define our terms much more strictly than we have been doing in the past.

Our knowledge of the nervous system has advanced much within the last two or three years. It is quite true it has not altered substantially, but it has altered in many details when we consider the question of nasal reflexes. For instance, take up a modern textbook and look at the origin of the nerves to the nose; we are told that the nerves to the respiratory part of the nose come principally from Meckel's ganglion. As a matter of fact no distinct nerve originates in Meckel's ganglion. The fibres which rise in the ganglion join the nerves which pass through it from the Vidian or over it from the Nucleus Spheno-palatini from the 5th Cranial Nerve. We read that the Vidian nerve is formed by the Great Superficial Petrosal from the Genuiculate ganglion, and by the Deep Petrosal from the sympathetic plexus on the Internal Carotid Artery. Such a description makes no mention of the branch to the Vidian from the Nervus Tympanicus of the Ninth Cranial Nerve, an important connection in so far that it shows the close relationship which exists between the nerves of the nasal mucous membrane and the Glosso-

pharyngeal, and through the Glosso-pharyngeal with the Vagus and the lower part of the respiratory tract.

The principal sensory nerves of the nose come from the Nervus Maxillaris of the 5th Cranial Nerve. They pass out in the Nervus Spheno-palatini. A few fibres from these nerves end in Meckel's ganglion; a number directly arising in the ganglion join the branches of the Nucleus Spheno-palatini and are distributed to blood vessels and glands of the nose and soft palate.

The nerves from Meckel's ganglion appear to be principally connected with the vaso-motor system and with the secretory system. Some of its connections undoubtedly extend beyond the nose. For example, there is one branch that goes from the ganglion to the 5th Nerve, then either through the Nervus Zygomaticus or through the Nervus Ophthalmicus to the lachrymal gland. There is here a clearly defined route by which irritation of the mucous membrane of the nose may bring on lachrymal secretion.

Discussing the physiological aspect of the question I shall limit my remarks to the question of how reflexes may affect the respiratory tract. It is quite true, that we are little conscious of the activity of nasal reflexes, but I believe they are ever at work, and that our cognizance of their activity comes most frequently when, from some pathological condition, they are more stimulated than usual, and the attention of the higher neurons is brought to the work done by the lower neurons. It may be on account of this that so little attention has been paid to nasal reflexes.

Another point is, reflexes of the nose, like all other reflexes, are to a large extent independent of the will. At the same time, we can to a certain extent influence a nasal reflex and excite its efferent fibers. Thus if we have a slight irritation of the nose, discomforting but not sufficient to produce the desired sneeze, we can by looking at a bright light produce that sneeze. Here an additional stimulus has purposely been added to the nasal stimulus to produce the reflex phenomena. So it would appear that additional stimulus to a sensory impulse may cause the efferent mechanism to come into play.

What is the physiological significance of nasal reflexes? We have sufficient experimental data to give us information on this point. If the nasal mucous membrane of a dog or cat be stimulated we find there is dilatation of the vessels of the nose, closure of the glottis, slowing of the heart's action, and slowing of respiration. If sufficiently strong there may be produced sneezing and coughing.

What does this mean? Surely, it indicates that there is here a mechanism for the protection of the respiratory passages from irritants.

Last year I presented a paper before this society in which I pointed out that we are apt to forget one of the functions of the larynx, namely, the protection of the respiratory passages. Correspondingly, in the nose the nasal reflexes physiologically act to protect the respiratory passages.

Nasal reflex can be produced by a variety of irritants, electrical, mechanical, and chemical; but of the three the chemical is the most powerful. As Brodie demonstrated, bromine gas held before the nose of a dog will produce closure of the glottis.

Coming to the interesting question of the influence of nasal disease on the production of asthma, there can be no doubt that removal of disease from various parts of the nose has produced benefit and temporarily, at least, stopped the paroxysms. But this does not prove that the nasal disease is the primary cause of asthma? It may be but the secondary or additional stimulus previously referred to. If you remove the secondary cause, and give the patient a better chance of being benefited, you have accomplished a good deal.

It has often been argued that there are some areas in the respiratory mucous membrane more irritable than others. There is no evidence from the nerve supply, or the nerve endings in any particular area, to support this view. There is one area in the septum which differs from the rest of the septum, namely the so-called nasal tubercle. The nasal tubercle is high up on the septum, a little towards the middle posterior part. It is a ridge, of thickened mucous membrane with numerous glands, and lies in close proximity to the middle turbinate with which it marks off the olfactory part from the purely respiratory part. It has been demonstrated in animals that there is a particular area on the septum which, above all others, will produce reflex contraction of the bronchial muscles. It may be that these two areas coincide; but so far this has not been shown.

In summing up, the important thing, from a clinical point of view, is to stop abnormal reflexes. In animals the most effectual way is to use atropine. Chloroform and ether have the same effect.

DR. NORVAL H. PIERCE: I am afraid that I cannot add anything that will enlighten the members on this subject. From my own clinical experience, I believe that there are very few nasal reflex

neuroses. Since the commencement of the paper, I have been thinking the matter over, and can only recall two instances where asthma was really materially aided, in one case by the removal of polypi, and rather small ones, and in the other case by correcting a deflection of the nasal septum high up. Both of these cases occurred more than five years ago; and since that time, I have not met with a case in which the asthma has been in any way due to intranasal disease, so far as I could ascertain.

Nothing has been said about the sexual area of the nose. I thought surely that phase of the subject would be discussed. There was one case referred to me about a year ago, the patient being a doctor's wife, who had dysmenorrhea, and was a highly neurotic woman, hysterical. I tried an experiment, after having been assured that it was the last hope of curing her dysmenorrhea. I tried the experiment of assuring her I found indubitable evidence of nasal disease, and that, in all probability, this was the cause of her dysmenorrhea. She swallowed both the hook and bait, and was only too glad when I cauterized the posterior portion of her septum on both sides. It was somewhat swollen, somewhat hyperemic, but not materially so. There was no absolute pressure. But I cauterized it, and the next menstrual period was infinitely less painful than any she had had for a long time. This continued for about three months, when she passed from under my benign influence and the dysmenorrhea returned. Now, I do not believe that the cauterization of the nasal septum had anything to do with the disappearance of the dysmenorrhea, and I believe that the majority of these cases, not even excepting asthma, that have been cured by intranasal operations, presumably cured, have been cases of hysteria, neuroses, that were benefited by suggestion. Surely, I have never seen, with the exception of the two cases of asthma I have mentioned, a well-defined case of pronounced reflex neurosis that has been cured by any intranasal operation. We have all seen facial neuralgias and neuralgias that have been out of the physiological domain, neuralgias of irradiation, cured by drainage of the antrum or by the destruction of ethmoidal tissue, drainage of a sphenoid antrum. But these are, as Dr. Gradle has said, hardly reflex neuroses.

DR. EDWIN PYNCHON: There is one point that I did not observe the essayist touch upon as a cause of asthma, namely, that condition known as posterior hypertrophy of the turbinals. I have seen pronounced cases of asthma which were promptly and permanently relieved by the removal of the posterior hypertrophy of a turbinate by

the use of the hot snare. All of us in our experience in the treatment of hay fever have observed that occasionally cases are markedly benefited, or even cured, by the removal at one time of a ridge from the septum, as mentioned by one of the speakers, and at another time by the removal of polypi or the removal of an enlarged turbinate.

Now, to my mind there is a general principle involved in the results which are obtained by different procedures in different cases, and it all hinges upon the fact that in hay fever there is always impaired ventilation and defective drainage of the attic of the nose. I never yet have seen a case of hay fever where during the paroxysms there was not an enlarged and boggy condition of the middle turbinal, and an occlusion high up of that part of the nose. In my opinion, and so far as my observation goes, these cases of hay fever can in the interval between attacks be so treated surgically as to destroy sufficient tissue, so that even during the process of swelling the opposing surfaces do not touch, and by so doing we can very materially diminish the tendency to hay fever even if we do not cure it. Of course, it is known that in hay fever, there is a combination of causes which has been described as a tripod, one feature being a defective nose, another being certain conditions which have been described as the uric acid diathesis, and still another, exposure to the exciting cause. If the nose can be put in such a physiological condition that air will at all times penetrate all parts of the nasal fossae, the sinuses will then be ventilated, and there will follow a marked diminution in the tendency to recurrences of attacks of hay fever.

As regards asthma, we have a different proposition, though it hinges upon the same pathologic condition, and it is this: Whenever the attic of the nose is occluded so as to prevent ventilation of the sinuses and the evaporation of the nasal secretion in the high part of the nose, there is a constant trickling of secretion down the fauces to the trachea and bronchi, and it is due to the settling of this mucous secretion from the nose that we have an explanation of the chief cause of asthma; consequently, in the same way, if the nose is so treated that those secretions which are pathologic will be diminished, and so that the normal secretion of the nose can be evaporated, we will do away with the tendency to asthma. You will understand I take this ground, when there are hypertrophic conditions in the high part of the nose, that by prevention of the evaporation of the nasal secretion there is a certain amount of thick-

ening and decomposition, so that the secretion becomes irritating. There is also another feature to be remembered, and that is, when the mucous membrane or tissues in the nose become chronically hypertrophic, they cease to throw out sero-mucous secretion of the same character as is normal, and consequently, being of a different character, it is not so easily evaporated and is in fact from the start a thickened and diseased secretion from a diseased and abnormal mucous membrane.

DR. GEO. E. SHAMBAUGH: No rhinologist to-day can look through the literature which appeared in the eighties and nineties on the subject of nasal reflexes without being astonished at the extent to which many of the rhinologists at that time allowed themselves to go in attributing to nasal reflexes all sorts of neuroses. The literature of this period teaches the important lesson that the subject of nasal reflex is one which we must study with caution.

If we stop and analyze the methods by which the diagnosis of a nasal reflex is established we can readily appreciate how errors in diagnosis may occur.

In the first place, the method of making a diagnosis of nasal reflex by the use of a nasal probe is apt to lead to an error in diagnosis. The theory of this method is that if so-called sensitive areas in the nasal mucous membrane are touched with a probe the reflex trouble will be started. As a matter of fact, persons suffering from a supposed nasal reflex are usually of a highly neurotic type, and it is very easy to understand how the irritation of a membrane as sensitive as the mucous membrane of the nose would act to produce an attack of the particular nervous trouble from which the patient might be suffering without the nasal membrane being at all responsible for the cause of the trouble.

Again, the method of diagnosing a nasal reflex by the use of cocaine is open to error. This method is based on the theory that if a person is suffering from a nasal reflex the cocaineization of the particular sensitive area in the nose will stop temporarily the reflex trouble. The temporary cessation of a nervous trouble following the application of cocaine to the nasal membrane cannot be considered conclusive evidence that this trouble was of nasal origin, since water applied in the same way has been known to produce the same result. Such cases are particularly susceptible to suggestion of this sort.

Another method of making a diagnosis of nasal reflex is by operating on the supposed cause of the trouble in the nose. The

relief of the trouble is held to be conclusive evidence that the nose was the cause.

Such reasoning is here again seriously at fault, and has often led to unnecessary operations. The examination of any nose will disclose anatomical variations such as slight spurs of the septum which the enthusiast is likely to interpret as the cause of the reflex trouble and to remove by operation. The same error is frequently made of attributing to these harmless anatomical variations in the nose the cause of nasal or pharyngeal catarrh, and even any or all the manifestations of chronic middle catarrh and the patient subjected to intra-nasal operation, the only effect of which on the ear trouble must be to increase rather than alleviate the condition.

There is perhaps, no more pernicious error than that of interpreting the effect of a temporary relief of a nervous symptom following an operation as evidence that these nervous symptoms were produced by the part operated upon. The gynecologists, I believe, hold the reputation for this sort of reasoning, and every one is familiar with the harm done by the enthusiastic gynecologist in his operation on the ovary for the relief of nervous conditions.

A specialty, and rhinology is no exception, is a dangerous field for the work of an enthusiast or one prone to have his hobby. In the matter of nasal reflexes, the rhinologist must take care lest by faulty reasoning he may be led to false conclusions.

DR. G. P. HEAD: Dr. Wilson in his remarks referred to the cases reported by Francis. I noticed in a paper read before the British Medical Association last year by MacDonald, that he reported a large number of cases of asthma cured in the same way, and predicted that that would be the way in the future in which the general practitioner would cure cases of asthma, i. e., the cauterization of the particular area spoken of by Dr. Wilson, namely, that point on the septum which is opposite the anterior extremity of the middle turbinal. The suggestion was made that disturbance of this area is not necessarily the cause of asthma or of other reflex neuroses, but that it is a particularly impressionable area in the system, and one which is easily reached. There may be other areas which we can not get at so easily, but which if operated upon might relieve the symptoms or the reflex neurosis just as effectively as cauterization of this particular area. But this is a convenient place to reach and many cases can be relieved by touching it. The whole system is so balanced in some individuals that a considerable error in one organ or very slight errors in several, will throw it out of balance and cause

trouble which we ordinarily speak of as a neurosis. If we correct any one of the things causing this, we enable the system to resume its balance and prevent those explosions which occur in the form of neuroses. It is the last straw that breaks the camel's back, and a very slight nasal abnormality may be the last straw when the system is carrying all it can in defects of other organs.

We certainly know that in the nose we have areas which are very sensitive, and we know that a person who is not breathing satisfactorily through the nose has one factor at work in destroying nerve balance. If we can correct this condition we do a good deal towards correcting the neuroses that have been mentioned, and that is the idea with which I think most of us work in the nose. We commonly say to a patient with a bad condition of the nose, "I do not know that this will cure your disease at all; I know one thing, it will improve your general condition; it puts one organ in a normal condition, and if the operation tends to that result it will help you in that way. It will do you good in a general way."

I noticed a recent article, not alluded to by Dr. Gradle, in one of the St. Paul journals, in which the writer reports a number of cases of tinnitus aurium relieved by cauterization of the middle turbinal, a point which most of us in recent years have been chary in touching with cautery. In view of the connection between the various parts of the body, we can readily see how such a cauterization might influence a disturbance in the ear. The point I have gathered from the discussions on nasal reflexes is that we have in the nose an area, on which it is easier to make an impression than on other areas of the body.

DR. T. MELVILLE HARDIE: I shall not attempt to discuss Dr. Gradle's excellent paper, except to refer to a point raised by Dr. Pierce who is, I think, the only member of the society who has given his experience with reference to asthma and its cure by the removal of pathological conditions in the nose. I merely wish to say that my experience is altogether different from his, and I remember at this time half a dozen cases of children to whom the suggestion of cure of asthma by operation could not be made, but in whom the asthma has altogether disappeared, after the removal of adenoid vegetations. I remember distinctly three children in one family, all of whom had asthma practically from the time of their birth until the removal of adenoid vegetations, and after this the asthmatic symptoms did not recur.

DR. JOHN EDWIN RHODES: As laryngologists and rhinologists we ought to be exceedingly conservative in the use of the term nasal reflexes. This is largely a speculative field. When we come to critically study all of the cases that are reported we can arrive at no other conclusion.

Although the subject has been brought up by members of our profession many times, and it has been thoroughly studied, a critical discussion is always profitable. As Dr. Gradle has said, altho a great deal has been written on it, the speculative character of the subject is still evident, and this is evidenced very plainly in considering the conditions in asthma.

A good many of us have treated asthmatic cases by intranasal operations, the removal of polypi or cauterizations of particular areas, with fairly satisfactory results; but in other similar cases we have not been so fortunate; have been unable to relieve the distress at all. We should consider the physiological points that Dr. Wilson brought out, and chief among them the question as to what constitutes a "nasal reflex."

In a discussion of this kind we are apt to stray far from the precise conditions. Nasal reflex means that we have an afferent sensory nerve; a central area in the cerebro-spinal center probably; and an efferent motor nerve.

Hay fever cannot be classed among those evils resulting from nasal reflex, alone. In hay fever we have other elements to contend with quite as important as the reflex, if not much more so. We have stimulus to the nerve endings in the nasal cavity; the inciting elements in the atmosphere, pollen; a neurotic condition in the patient; the psychic condition under which the patient lives, works, etc.

There are, no doubt, some abnormal conditions that are of distinctly nasal reflex origin. We all of us know we get nasal reflexes from irritation of the nasal mucous membrane, whether it be from growths, or by the use of a probe, or otherwise. We have coughing and sneezing and spasms of the glottis, and asthmatic seizures from nasal reflexes; but that most of these are purely physiological conditions has been shown by Dr. Wilson, and we cannot but agree with him. Taking all this into consideration, it is a pretty well established fact that asthma is sometimes a nasal reflex, but that it can be relieved by any fixed nasal operation, would seem to be doubtful, considering the fact that Francis reported 402 cases of asthma which he treated by cauterization of the upper

anterior portion of the nasal septum, claiming to have relieved or cured all but eight of these; while another authority, equally good, declares that he has cured asthma by cauterizing the anterior end of the inferior turbinated body; and other cases have been cured by the removal of polypi, exostosis, or other obstructions. There would seem then, to be no distinctive area, so far as we can discover from comparing the cases reported, which can be definitely pointed out as the focusing spot to be treated for the cure of asthma.

It has been said that with nasal reflex as a starting point, almost anything can be reasoned out. The same may be said of other reflexes. I need but to mention those claimed by some gynecologists and ophthalmologists. That we are apt to stray very far from proven facts in discussions of this topic, is because the positive proofs are so few. We must agree with Dr. Shambaugh as to the amount of speculation that hampers us. The methods we employ are tentative, and they do not really prove much after all. Many of us have had cases similar to those reported by Dr. Pierce. Such a one was referred to me not long ago. The patient, a young woman, had suffered from dysmenorrhea for several years. During one of her menstrual periods the attending physician went to the house and applied cocaine to the anterior portion of the nasal septum. This relieved the dysmenorrhea promptly. He subsequently sent the case to me for cauterization of these nasal areas, which I did, but do not know how permanent the results may be. She was much better for a time, but I doubt very much if we can expect a permanent cure from such a procedure in many cases of the kind. The nervous condition of the patient must be considered as an important factor in these cases. I have in mind a reported case of epilepsy that was cured by the removal of a spur from the septum; and that it was the cause of the epileptic attacks seems to have been proven by the fact that a plug having been put in the nose to prevent hemorrhage, the swelling of the plug brought on epileptic attacks, from which the patient was a sufferer. Following the removal of the plug there was a cessation of the attacks and at last reports the removal of the spur had brought about a relief from the epilepsy as the attacks had not returned. Such cases, in my opinion, however, are purely speculative, and do not increase our knowledge of facts very much.

The scientific aspect given to these discussions by Dr. Wilson and Dr. Gradle should certainly be of great service to us and especially the point emphasized:—that we can often remove one of the causes of the explosion in asthma by performing intranasal operations.

DR. GEORGE PAULL MARQUIS: I simply want to emphasize the point that we should not attempt to ascribe everything directly to nasal reflexes, but we should differentiate between nasal reflex proper and mechanical irritation. There are a great many such cases as have been cited this evening. For instance, we know that patients with asthma have been benefited very materially after the removal of adenoids, the removal of hypertrophies of the posterior ends of the inferior turbinate, or after the removal of polypi. But in those cases we always have a mechanical irritation due to the secretion of these hypertrophied posterior ends, these polypi, or from the adenoids, which we all know secrete very profusely, and the mechanical irritation of this secretion in the pharynx over the epiglottis, sometimes irritates the larynx itself, bringing on spasms or attacks which, if not caused directly by it, result from an increased or aroused predisposition to such diseases as asthma. Other instances are those of mechanical pressure in the nose due to deviations of the septum, to spurs or hypertrophies. I have seen a number of cases of constant headache where the patients have been relieved simply by straightening a deflected septum, where it pressed on the middle turbinated bone. This was not a nasal reflex, but direct pressure. On the other hand, we see cases where a reflex condition, pure and simple, occurs. I remember the case of a child I operated upon last winter. The child had frequent convulsions. I made a diagnosis of adenoids in the vault of the pharynx, and after their removal the convulsions did not recur. I do not see how those cases can be explained on the ground of pressure. There are many cases which we ascribe to reflexes, but which I think can be explained on the ground of direct mechanical pressure. We should not ascribe everything to a nasal reflex, when in many cases the cause may be traced directly to other sources.

DR. J. HOLINGER: With regard to Dr. Gradle's remarks concerning affections of the heart in connection with the nose, I wish to say that I recently read a paper before the Mississippi Valley Medical Association on "General Blood Poisoning Emanating from the Nose." I reported cases, where general rheumatism was cured by operative procedures in the nose, especially on the frontal sinus. To me it appears quite possible that certain heart lesions are metastases from affections of the nose, as was proven long ago from septic processes in the tonsil. May not heart lesions have a similar explanation as a form of general blood poisoning from the nose?

The most pronounced case in this line was an old man who was not neurotic, but who had rheumatism in all parts of the body for

years and years. He consulted me, and I removed polypi from the anterior part of the nose, after which he stated distinctly that he was free from rheumatism. The rheumatism, however, returned after a few months, and disappeared again after I had removed another series of polypi. Finally, his rheumatism was permanently cured after the frontal sinus was opened, and pieces of necrotic bone were removed. There can be no question as to cause and effect in this case. It was simply a general blood poisoning from the affection of the frontal sinus, and the rheumatism was nothing more than a slight sepsis. So I think a line must be drawn between real reflex from the nose and general septic conditions with metastases in different organs, and entire exclusion of the nervous tracts. I doubt, however, whether a differential diagnosis is always possible and so they explain to me a part of the speculations on nasal reflexes.

DR. A. H. ANDREWS: It is evident, after listening to this discussion, that it is exceedingly difficult always to trace the relation between cause and effect. I think there is little doubt but that some of the effects which we see are due, as Dr. Head suggests, to the disturbance of nervous equilibrium caused by intranasal conditions.

The question of dysmenorrhea has been discussed. I had some experience in the treatment of perhaps half a dozen cases of that kind which were referred to me by a gynecologist. Three or four of them I have been able to watch. In three the dysmenorrhea has returned, although it was said to have been greatly relieved shortly after cauterization of the nose. In one patient, whose nose was cauterized over two years ago (I cannot give the exact date), the dysmenorrhea has not returned, but that of itself does not prove anything, because dysmenorrhea disappears apparently of itself sometimes.

With regard to the psychic effect of the application of cocaine to the nose, I would say that in three of these cases we applied a pledget of cotton, saturated with water first, to see what effect it would have, and got absolutely no effect upon the pain. The experiment was made while the patient claimed to be suffering severe pain, and within an hour afterward applications of cocaine were made and the pain was relieved. I have no data, but my recollection is that relief was afforded in ten or fifteen minutes. Again, we must remember that we are not alone in wrestling with these reflex cases. Gynecologists, as has been said, have removed ovaries for certain disturbances of the nervous system. We know very well

that the orificial surgeon—I am tempted to call him the rectologist—stretches the rectum, removes pockets from the rectum, and from his reports he gets better results than we dare report to-night. The specialist—I do not know what to call him, as I do not know to what class he belongs—circumcises people for hay fever and for asthma, as well as for various other disturbances which have been sometimes attributed to nasal conditions, and obtains results which are said to be quite satisfactory. So we must remember that we are not the only ones, and we must leave something for the other man to do in the treatment of these cases.

DR. JOSEPH C. BECK: I would like to report a case in connection with this discussion which Dr. Gradle has had the privilege of seeing. It is a *crisis* of angioneurotic edema, the patient having periodical swelling of the cheek in the region close to the parotid gland, and associated with it is a rhinorrhea. Examination of the nose between attacks discloses it to be absolutely normal. The swelling is preceded by a sneezing fit, and then there is edema or closure of both nostrils, but more particularly on the side where the swelling occurs on the face. This swelling lasts for twenty-four hours after which the nasal passages become clear and the swelling goes down.

Dr. Gradle has seen the case and concurs in the diagnosis of angioneurotic edema, and the nose very likely has nothing to do with the swelling. I tried to find sensitive spots on the septum; I cauterized the septum at various times without any effect whatsoever, and I believe, with those gentlemen who have so expressed themselves, that the nose plays very little part in the pathological condition, particularly as regards heart lesions and rheumatic affections.

Fibroma of the Tonsil.—By EDWIN PYNCHON, M.D.

DR. EDWIN PYNCHON: I have taken the privilege of bringing here to-night a patient whose case is of sufficient interest to warrant me in presenting him. It is a case in which there was a condition of marked hypertrophy of one tonsil only. He is thirty-one years of age, and in good general health. He came to me with the following history: His health up to eight years ago was perfect, with the exception of his having had the usual ills of childhood at the age of six. Otherwise he remained in good health until he was twenty-three years old, at which time he had an attack of tonsilitis or quinsy, which was so violent that it confined him to the house for approxi-

mately five weeks. After the subsidence of the quinsy, there was no decrease in the size of the tonsil. It remained large. At the time I examined him the picture was very peculiar. Beginning in the median line, from the uvula, the tonsil on the enlarged side went down with a simple curve like this (indicating); while on the other side the faucial curve was normal, the two pillars being free, with a recess between them, containing a small tonsil which might be called normal. At the time of the attack of quinsy only one side was affected.

Of course, the first question that would occur to anyone in looking at a unilateral enlargement like that would be whether or not it was of a malignant nature. In the history of the case as given by the patient he states that there has been no malignancy in the family, and that his tonsil had remained in the present condition, *in statu quo*, for eight years. During the interval the patient's health was perfect, with the exception of two or three slight attacks of sore throat or follicular tonsillitis. Within these eight years he had served three years in the army, during which time he did not lose a single day on account of impaired health. He had also served in the militia. During these eight years he was examined by different army surgeons, five of whom endorsed the propriety of removing the tonsil, but all of whom declined to do so, apparently on account of the fear of hemorrhage. At the time I examined him the anterior pillar was tremendously enlarged, and the tonsil on that side had the appearance of being almost the size of a pullet's egg. In the center of the tonsil there was an aggregation of four or five large follicles, which looked like a chronic lacunar tonsillitis.

I decided to remove the tonsil, and of course my method of election was "cautery dissection," believing it to be the safest method in any case where there is a fibrous condition or danger of hemorrhage. I began the operation, clearing out the supra-tonsillar fossa perfectly, and peeled the tonsil down towards its base. As I proceeded I found the mass was so large that it fell over on the other side, so as to gag the patient considerably. There was not much hemorrhage, although there was present a large amount of frothy saliva. The operation, from start to finish, occupied considerable time, owing to the desire on part of the patient to rest two or three times, and partly on account of my having other patients to attend to. Eventually, I had the tonsil pretty well loosened though I will say, on account of having to work in the dark, as I got near the median line I scaled out towards the surface rather than go into

deep water, so to speak. In this way, I was able to separate the upper three-fourths of the tonsil, as you will see when you examine the patient, though I eventually completed the operation with a cold snare. From the pedicle which I thus cut with the cold snare there was a moderate hemorrhage, which lasted ten or fifteen minutes, but which was easily arrested by gargling with ice water. The only thing I left was the lower part of the tonsil. I usually get all of a tonsil when I go after it, but in this case I did not get it all. I contemplate removing the remainder at a later period. As regards the character of the tonsil, I do not believe there is anything of a malignant nature about it. I consider it of a fibromatous nature only. You will understand the magnitude of the operation and the difficulty which I encountered when it was nearly removed.

I will submit the tonsil for your inspection, which fills this entire bottle (exhibiting bottle containing tonsil). It weighs a trifle over half an ounce.

During the past sixteen years I have done probably in the neighborhood of two thousand tonsillectomies in addition to many tonsillotomies. I have removed several tonsils that looked large. I previously removed a tonsil which I thought would weigh half an ounce, but it weighed less than two drams. Of all the tonsils I have removed or seen during that time, I have never seen such a large tonsil as this one.

Massage: A New Method by Means of Metallic Mercury.—By

JOSEPH C. BECK, M.D.—(*Published in full in this issue of THE LARYNGOSCOPE, page 913*).

DISCUSSION.

DR. MARQUIS: How often do you give this treatment?

DR. BECK: I have given these treatments every other day. The treatment is given for about two minutes, then discontinued. At least, temporarily, the patients say they are very much relieved, and it seems to be better than any other means I have tried, either locally or generally.

DR. HOLINGER: Is there any mercurial stain?

DR. BECK: Practically nothing to speak of.

DR. WILSON: What effect has this treatment on the nerve endings?

DR. BECK: I do not claim any great results, so far as deafness is concerned. So far as tests are concerned, there has not been very much change in the hearing.

DR. A. H. ANDREWS: I am not in a position to discuss this method of treatment further than to say that there are certain points which appeal to me as reasonable, and if Dr. Beck will read a paper on the subject in a month or two from now, I think I shall be ready to discuss it. I hope by that time to have had some experience, because I am going to experiment with the method.

DR. NORVAL H. PIERCE: I do not think we ought to pass this method of treatment without further discussion, for it is surely novel. It is an innovation, and in these days, when there are really very few new things, I believe we should give it our consideration.

In examining the ear of this patient, I find there is pronounced hyperemia along the long process of the malleus, which I would regard as presumptive evidence that the mercury does come in contact with the tympanic membrane; therefore, it is a method by which we can move the ossicular chain in the tympanic cavity. It is probably as nearly effective as Lucae's feather probe; it has the undoubted advantage over Lucae's feather probe of being comparatively painless, and there is no reason for believing that it is less effective. Therefore, we may say that this is an advance and an improvement over the well-known method of Lucae of moving the ossicular chain. All methods by which pressure alone is made on the ossicular chain are less effective than those by which we get a drawing action together with the pressure action, because the excursions of the tympanic membrane are much less in the inward direction than in the outward direction. I should say, therefore, that this method is not as effective, when we wish to move the ossicular chain to break up adhesions or to move the joints of the ossicles, as pneumatic massage. It lacks the effectiveness of Lucae's method, inasmuch as it acts upon the entire tympanic membrane, and we know that one of the indications for the use of Lucae's probe is the presence of circumscribed or general atrophic processes in the tympanic membrane.

I believe that Dr. Beck has made a mistake in not endeavoring to arrive at a definite diagnosis as to the presence of stapes ankylosis in his cases. Unless he does this, I believe it will bring some discredit upon his method, because when tinnitus aurium is due to changes in pressure in the peri-lymph or in the internal ear, due to stapes ankylosis in all probability, we can produce no effect on the tinnitus by any method of massage.

I wish to congratulate Dr. Beck, however, upon producing a new method of tympanic massage; and while I believe all tympanic mas-

sage has a limited sphere of usefulness, yet I believe it is effective and cannot be replaced by any other method of treatment, and inasmuch as he has added one more means of producing good effects, he has won or should have won our congratulations.

DR. EDWIN PYNCHON: It has happened to be my pleasant privilege to be in Dr. Beck's office two or three times during the past two weeks, and I have seen at least half a dozen patients whom he was treating during the occasion of my visits, and the invariable report of every patient was an improvement of the tinnitus exactly as he has stated. This improvement lasted for two or three days, at any rate, when additional treatment was required. Of course, this method of massage is more efficient upon the ossicles in the condition of thickened drum-head than when the drum-head is in an atrophied or flaccid condition.

As regards tinnitus aurium or other affections of the labyrinthine region, I believe in ninety-five per cent. of all cases there is a middle ear complication, and that this can be benefited. Since Dr. Beck has referred frequently to tinnitus aurium, it may be permissible for me to say something which, I believe, will be new to most of you. It was new to me until a short time ago.

One of my students, who was at the Eye, Ear, Nose and Throat College several years ago, but who is at present located in Birmingham, Alabama, Dr. Thomas H. Brunk, prepared a paper to read before the American Academy of Ophthalmology and Oto-Laryngology at Buffalo, but having had an attack of appendicitis, and having been operated upon, he was unable to be present; consequently, owing to the large amount of business to be transacted, and by the rules of the Society, his paper was not read, so the subject-matter has not up to the present time been made public. His paper deals with the fossa of Rosenmuller. I was charmed, on reading the paper, with the report of results which he has obtained in cases of tinnitus aurium. His experience is this, that there is often present in these middle ear conditions a pathologic condition of the fossa of Rosenmuller, in which the bottom of the fossa, so to speak, is filled with a sort of adventitious abnormal growth, which is easily destroyed by curettement, preferably with the finger-nail. He has in his experience, which embraces something like fifty cases, had the most marked results as regards not only improvement or correction of the tinnitus, but also as regards improvement of the tubal catarrh and of the middle ear conditions secondary thereto. In his paper he emphasizes the fact that authorities have little or nothing to say of the fossa of Rosenmuller; in fact in the textbooks the prin-

cial thing we find is some slight mention of synechiae reaching from the Eustachian prominence to the back part of the pharynx, which are occasionally observed, and when found, it is considered the proper thing to destroy. But nothing is said about the partial filling of the fossa of Rosenmuller by a sort of lymphoid tissue whereby the fossa, instead of being deep, like this (illustrating), is simply a slightly hollowed canal or trough.

I have put into practice the treatment recommended by Dr. Brunk in two cases. One patient was a physician, a former assistant of mine, and the operation, after proper cocainization, was not at all disagreeable to him. I examined him with the rhinoscopic mirror and could not see any strings reaching across the fossa. I could clearly see the fossae which instead of being rather deep, were shallow. I introduced my right index finger for the right side, and my left index finger for the left side, and thus curetted the fossae, and he said that he could distinctly hear a noise from the breaking-up of the soft tissue. The next day he reported a marked improvement as regards the sensation of fullness in the ear of which he had previously complained, and also an improvement in the tinnitus with which he had been formerly annoyed. The other case was treated such a short time ago that I have not since heard of the result.

DR. J. G. WILSON: I wonder if Dr. Beck can give us an explanation of the results from the massage which he has obtained.

DR. BECK: In order to prove the motility of the ossicles by this method, I made the following experiment: A patient who had a history of chronic catarrhal otitis media adhesiva died suddenly of cardiac trouble, and the post-mortem was made to ascertain positively the cause of death. (In order to give me an opportunity to carry out this experiment.) After the brain was removed and while being examined by the pathologist, I was given the privilege of using the head of the cadaver for my experiments. I chiseled off the tegmen tympani, in such a manner as to lay bare the attic and ossicles. A thin wire was passed between the malleus and the incus, and another at the incudo-stapedial joint. Then thin strips of paper covered by a smoked surface such as is used in sphygmographic tracings were placed opposite the wires, which were bent slightly at their extremities, where they came in contact with the strips of paper. Now, with an apparatus fitting closely into the external auditory meatus, which had been filled with two ounces of mercury by weight, was so manipulated as to make the mercury strike the drum membrane. The result of these impulses is shown by the tracings.

With reference to the remarks made by Dr. Pierce, who said that in examining this patient he noticed redness of the drum membrane, and on this account it was very likely the mercury struck the drum, I wish to say that if you place this instrument in the ear and try it on yourself you will distinctly feel a knock or stroke the minute it touches the drum. The patient will tell you how it feels. It is not unlike a light hammer which strikes the drum membrane.

As regards Lucae's probe, he claimed absorption of the pathologic conditions present in the ear, and that is what I claim for this method, although possibly the pressure by the probe may be more direct on the ossicles than this is. How many of you will not agree with me that Lucae's probe is impracticable, owing to its being painful to the patient? Of course, you may anesthetize the drum membrane. But some of my patients, yes, the majority of them, upon whom I have tried this treatment have refused to let me do it a second time. Therefore, this treatment has this advantage, it mas-



Sphygmographic Tracing.

sages the drum membrane; but I am expecting more from the therapeutic use of the nascent mercury applied to the drum membrane than possibly from the massage.

With regard to specifying which cases are most suitable for this treatment, I shall certainly differentiate the cases. I have made records of the cases, and have differentiated them, so that I can say it is particularly adapted to the adhesive processes following the accumulation of fluid, which has dried up, those that are improved by inflation and by clearing out the tympanic cavity, or by proper ventilation of the middle ear. I do not mean to imply by recommending this treatment that I ignore all other treatments, particularly of the naso-pharynx. I am a thorough believer in the fact that the naso-pharynx and Eustachian tube play a part in the treatment of these cases, and I would not like to go on record without saying that I would try everything in the case of ear troubles,

treating the naso-pharynx or the general systemic condition. I have brought this method of treatment before you as a possible means of relieving cases of tinnitus aurium. It will benefit many of these cases, and I ask you all to give it a trial.

The treatment is beneficial in cases of cerumen which have resisted the usual method of washing out the ear. I have experimented repeatedly, allowing the mercury to flow in quite hot. It is surprising how the patients tolerate heat in the auditory canal. In ceruminal plugs the treatment is of some value, as the mercury finds entrance into the small opening between the wall of the external auditory canal and the ceruminal plug.

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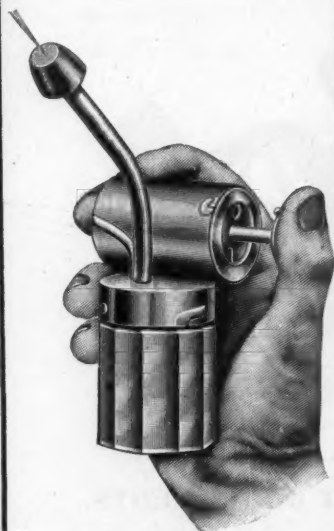
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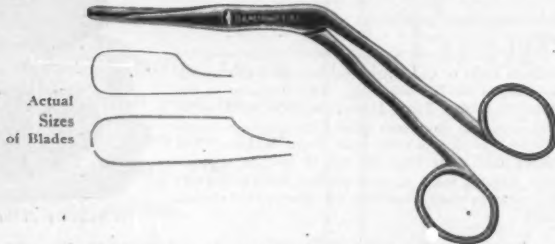
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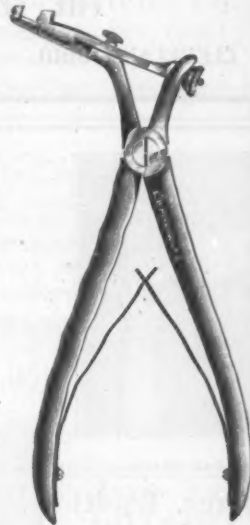
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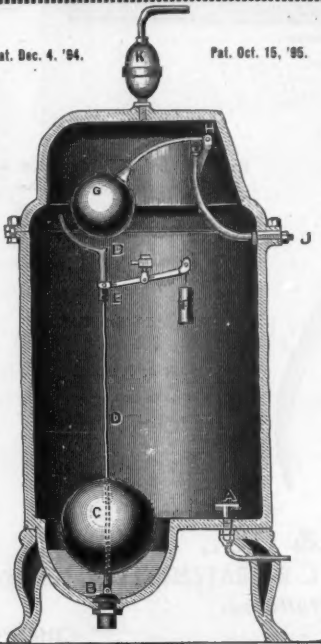
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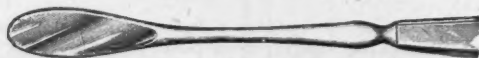
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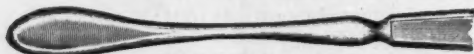


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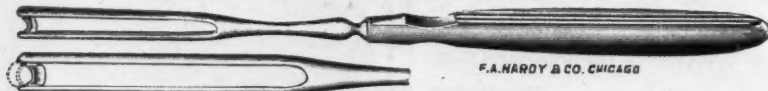


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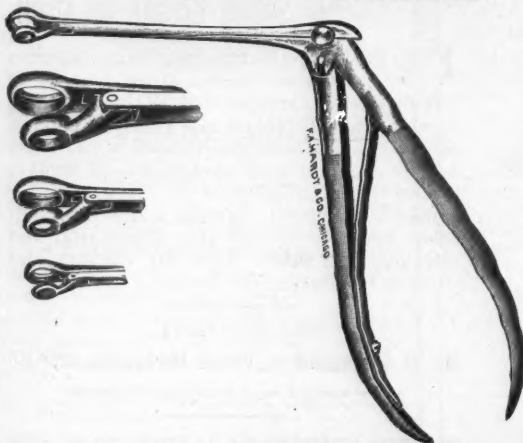


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This Instrument gives a brilliant illumination and wide field of view, which is wholly unobstructed when the test object is thrown out of focus. It also furnishes an exact objective test of great value, because by reason of the absolute independence existing between the means employed for focusing the test object on the retina and those provided for viewing it there, the element of inaccuracy, due to the unknown state of the observer's accommodation, is wholly eliminated.

DE ZENG'S LUMINOUS RETINOSCOPE

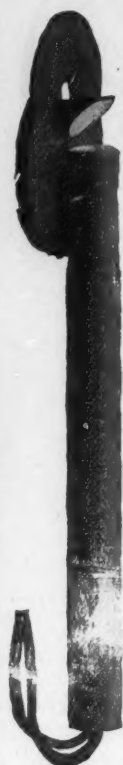
Of the various methods for estimating the refraction of the eye objectively Retinoscopy is by far the most practical and accurate.

As the science of Retinoscopy is based upon the study of the fundus reflex, light is the all-important factor in producing the phenomena from which the deductions are made.

In the Luminous Retinoscope, which consists of the Thorington Plane Mirror Retinoscope in combination with the de Zeng Electric Lighting Attachment the ideal Retinoscope is obtained.

The bright and beautiful reflex which this Retinoscope presents to view, justly places it in the foremost position among all of the instruments used in the practice of Retinoscopy. It gives the exact character and amount of the refractive error in a moment and does not fatigue or annoy the patient.

For Descriptive Literature, Prices, Etc., Please Address,



The Luminous Ophthalmoscope



The Luminous Retinoscope

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